

**ECONOMIC IMPACT OF COUNTRY-OF-ORIGIN LABELING
IN THE U.S. BEEF INDUSTRY**

A Thesis

by

DANIEL DAVID HANSELKA

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE

December 2004

Major Subject: Agricultural Economics

**ECONOMIC IMPACT OF COUNTRY-OF-ORIGIN LABELING
IN THE U.S. BEEF INDUSTRY**

A Thesis

by

DANIEL DAVID HANSELKA

Submitted to Texas A&M University
in partial fulfillment of the requirements
for the degree of

MASTER OF SCIENCE

Approved as to style and content by:

Ernest E. Davis
(Chair of Committee)

David P. Anderson
(Member)

Oral Capps, Jr.
(Member)

Dan Hale
(Member)

A. Gene Nelson
(Head of Department)

December 2004

Major Subject: Agricultural Economics

ABSTRACT

Economic Impact of Country-of-Origin Labeling
in the U.S. Beef Industry. (December 2004)

Daniel David Hanselka, B.S.; B.S., Texas A&M University

Chair of Advisory Committee: Dr. Ernest E. Davis

Concerns over the total costs assessed to the beef industry from the implementation of mandatory country-of-origin labeling (COOL) regulations warranted an investigation into the estimation and distribution of marketing and marginal costs of production for retail chain stores and distributors, meat packers and processors, cattle feedlots, cattle backgrounding yards and cow-calf producers. Furthermore, it is thought the implementation of COOL will impose severe market and social welfare effects on the participants in the beef industry.

This research focused on two main objectives. The first objective is to provide a full beef industry cost assessment for implementing COOL regulations based on the preliminary guidelines for COOL as published by the United States Department of Agriculture in the proposed rule in October of 2003. Financial and production data was collected and used from U.S. retail chain stores and distributors, meat packers and processors, cattle feedlots, and cattle backgrounding yards and stockers. The second objective was to use the weighted average cost estimates calculated from the data to determine the magnitude of increases in the demand for retail beef, wholesale beef, fed

cattle, and feeder cattle needed to negate the increase in costs of implementing mandatory COOL regulations.

An equilibrium displacement model was used to demonstrate the supply and demand functions and relationships for retail beef, wholesale beef, fed cattle, and feeder cattle. Estimated elasticities for retail beef, wholesale beef, fed cattle and feeder cattle were used to calculate the relative changes in price and quantity in response to the COOL-induced supply and demand shifts. The quantity intercepts from the estimation of the linear parameters can be used to calculate the increases in consumer demand needed to negate the increases in costs estimated from the survey results for the retail, wholesale, fed cattle, and feeder cattle sectors of the beef industry.

A significant cost burden to the beef industry was shown by the weighted average estimates calculated from the research. Retail chain stores and distributors, meat packers and processors, cattle feedlots and cattle stockers are expected to see an increase in marketing and marginal costs of production as a result of implementing COOL.

ACKNOWLEDGEMENTS

A debt of gratitude is owed to several individuals who, in various ways, have helped me complete this study and attain my master's degree.

I would first like to thank Dr. Ernie Davis, my major professor, for providing me the opportunity to work with him and also for the many learning experiences I was granted. His excellent advice and counsel at times when I desperately needed some guidance, encouragement, and motivation have been invaluable to me. I appreciate his assistance and all of the time he devoted to seeing this study to its completion.

I would like to recognize Dr. David Anderson for his constant support and excellent advice with this thesis. I appreciate his assistance, input, and willingness to help during the tough times.

Recognition needs to go out to Dr. Oral Capps for helping with the development of the economic model and for his advice along the way. The suggestions, support and assistance which Dr. Capps has freely shared are deeply appreciated.

I would like to thank Dr. Dan Hale for his support, help, and excellent advice with this thesis.

I would also like to thank Texas A&M University and the Department of Agricultural Economics for the opportunity to further my education and for the support to accomplish this educational goal.

Thank you to my fellow graduate students, who have struggled alongside me and have helped me achieve completion of my degree. I especially owe my good friends a debt of appreciation for their friendship and support.

Lastly, I would be remiss in not recognizing a group of people who have made everything I have ever achieved possible. My father, David, mother Gail, brother Jeff, sisters Leah and Katie, grandparents, and extended family have provided an irreplaceable support network for me throughout my life. I could not have completed this stage of my education without them.

TABLE OF CONTENTS

	Page
ABSTRACT	iii
ACKNOWLEDGEMENTS	v
TABLE OF CONTENTS	vii
LIST OF FIGURES.....	ix
LIST OF TABLES	x
CHAPTER	
I INTRODUCTION	1
Problem Statement	1
Objectives.....	2
Justification	3
Procedures	4
II LITERATURE REVIEW	6
Labeling Policy and Economics.....	6
Overview of Country-of-Origin Labeling Law	11
Potential Direct and Indirect Costs of Country-of-Origin Labeling	15
Potential Benefits of Country-of-Origin Labeling	28
Market Structure and Economic Theory of the Beef Industry	33
III RESEARCH METHODOLOGY	43
Population and Sample.....	44
Development of Survey Instrument	46
Procedures in Data Collection.....	54
Data Analysis	78
Economic Theory of Model	82
Development of Model.....	90

CHAPTER	Page
IV	RESULTS AND FINDINGS 112
	Survey Results for Retail Chain Stores and Distributors 113
	Survey Results for Meat Packers and Processors..... 117
	Survey Results for Cattle Feedlots 131
	Survey Results for Cow-Calf Operators, Backgrounding Yards and Stockers 134
	Survey Results for Beef Industry 137
	Short-run Price and Demand Changes as a Result of COOL Costs 137
	Short-run Changes in Price and Quantity Under Circumstances of No Change in Demand and a Percentage Change in Demand 142
	Impacts on Producer, Consumer and Total Economic Surplus 144
	Summary 147
V	SUMMARY AND CONCLUSIONS 150
	Restatement of Problem 150
	Restatement of Objectives 150
	Results 151
	Conclusions and Implications 153
	Limitations 155
	Future Research Needs 155
	REFERENCES 157
	APPENDIX A 161
	APPENDIX B 268
	APPENDIX C 276
	APPENDIX D 286
	APPENDIX E 291
	APPENDIX F 296
	APPENDIX G 299
	VITA 301

LIST OF FIGURES

	Page
Figure 2-1. Beef supply chain and COOL process schematic	17
Figure 3-1. Effects of imposing COOL costs on the retail level.....	85
Figure 3-2. Effects of imposing COOL costs on the wholesale level.....	86
Figure 3-3. Effects of Imposing COOL on the farm level	87
Figure 3-4. Effects of imposing COOL costs on the retail and wholesale levels.....	88
Figure 3-5. Effects of imposing COOL costs on the wholesale and farm levels	89
Figure 3-6. Changes in producer surplus with no change in consumer demand.....	105
Figure 3-7. Changes in consumer surplus with no change in consumer demand.....	106
Figure 3-8. Changes in producer surplus resulting from a percentage increase in demand.....	109
Figure 3-9. Changes in consumer surplus resulting from a percentage increase in demand.....	110
Figure 4-1. Retail choice beef demand index.....	148

LIST OF TABLES

		Page
Table 3-1.	Daily and Cumulative Return Rates and Data Collection Procedures for Retail Chain Stores and Distributors	57
Table 3-2.	Daily and Cumulative Return Rates and Data Collection Procedures for Meat Packers and Processors	65
Table 3-3.	Daily and Cumulative Return Rates and Data Collection Procedures for Cattle Feedlots	74
Table 3-4.	Daily and Cumulative Return Rates and Data Collection Procedures for Cattle Backgrounding Yards and Stockers	76
Table 3-5.	Parameter Definitions, Estimates, and Sources for the Equilibrium Displacement Model	95
Table 3-6.	Variable Definitions for the Structural and Equilibrium Displacement Model	100
Table 4-1.	Weighted Average Incremental and Capital Cost Estimates for Retail Chain Stores and Distributors.....	115
Table 4-2.	Case-ready Productivity Distribution and Percentage Changes for Retail Chain Stores and Distributors	118
Table 4-3.	Weighted Average Incremental and Capital Cost Estimates for Meat Packers and Processors	121
Table 4-4.	Weighted Average Percentages of Cattle Slaughtered and/or Processed by Meat Packers or Processors.....	123
Table 4-5.	Weighted Average Percentages and Added Costs Associated with Record Keeping Time Spent on Country-of-Origin Labeling for Meat Packers and Processors	126

	Page
Table 4-6. Weighted Average Percentages of Total Annual Production That Is Marketed to Hotel Restaurant Institutes, Retail Grocery Outlets and Other Markets.....	127
Table 4-7. Weighted Average Total Annual Cost Estimate for Designating Specific Plants, Production Runs, or Production Lines for Various Market Distributions.....	129
Table 4-8. Case-ready Productivity Distribution and Percentage Changes for Meat Packers and Processors.....	130
Table 4-9. Weighted Average Incremental and Capital Cost Estimates for Cattle Feedlots.....	133
Table 4-10. Weighted Average Incremental and Capital Cost Estimates for Cow-calf Operators, Cattle BackGrounding Yards and Stockers	136
Table 4-11. Weighted Average Total Cost Estimates for the Beef Industry.....	138
Table 4-12. Percentage Changes in Endogenous Variables for Each Market Level ^a	139
Table 4-13. Percentage Changes in Price and Quantity at Various Demand Scenarios ^a	143
Table 4-14. Changes in Producer Surplus for Each Market Level, Consumer Surplus at the Retail Level, and Overall Social Welfare for Each Market Level.....	145

CHAPTER I

INTRODUCTION

One of the most contentious issues in the 2002 farm bill was mandatory country-of-origin labeling (COOL) for beef, lamb, pork, fish, and other agricultural commodities. The issue pitted various segments of the industry against each other as they took up sides for and against COOL. What sounded like an easy task, to put a label of origin on products, became difficult in rulemaking as the validity of what is required to verify a label became apparent. Even other countries weighed in as they feared the loss of markets. In addition, COOL is a perfect example of policy enacted with no knowledge of the costs and benefits of the policy. Evidence of costs and benefits only became evident after the farm bill was passed. This research estimates total capital and incremental costs imposed on cow-calf producers, stockers/backgrounders, feedlots, packers/processors and retail sectors of the beef industry and an investigation of the economic impact of COOL on the demand and prices of feeder cattle, fed cattle, wholesale beef and retail beef.

Problem Statement

Previous research has shown the implementation of mandatory country-of-origin labeling (COOL) regulations will result in a significant cost burden on all sectors of the

This thesis follows the style and format of the *American Journal of Agricultural Economics*.

beef industry. Added costs include direct marginal costs of production for each individual firm in the industry and indirect costs (losses in market share, trade ramifications, etc.) associated with the implementation of mandatory COOL regulations. General assumptions suggest the increases in costs will be passed on to the consumer in the form of higher prices or, more likely, passed down the beef supply chain to the producer in the form of lower prices.

A second issue stemming from the implementation of mandatory COOL is the market and social welfare effects on the participants in the beef industry. The majority of the studies have estimated the changes in producer and consumer surplus, but few have attempted to calculate and explain how much demand for retail beef, wholesale beef and fed cattle must increase to offset or negate the increases in costs resulting from the implementation of COOL regulations.

Objectives

At issue in the implementation of mandatory COOL regulations for agricultural commodities is the question, “What are the total costs that will be assessed to each sector of the beef industry?” That is, how much additional costs will be imposed on retail chain stores and distributors, beef packers and processors, cattle feedlots, cattle backgrounding yards, and cow-calf producers for compliance with the mandatory COOL requirements.

The first objective of this study is to provide a full beef industry cost assessment for implementing Country-of-Origin Labeling (COOL) regulations based on the preliminary guidelines for Country-of-Origin Labeling as published by the United States

Department of Agriculture Federal Register in the proposed rule in November of 2002 (USDA/AMS 2002).

A secondary objective of this research is determining the market and social welfare effects of implementing COOL on all participants of the beef industry. More specifically the secondary objectives were:

- To determine the magnitude of increases in the demand for retail beef needed to negate the increased cost of implementing Country-of-Origin Labeling such that producers and consumers are no worse off.
- To determine the magnitude of increases in the demand for wholesale beef needed to negate the increased costs of implementing Country-of-Origin Labeling such that producers and consumers are no worse off.
- To determine the magnitude of increases in the demand for fed cattle needed to negate the increased cost of implementing Country-of-Origin Labeling such that producers and consumers are no worse off.
- To determine the magnitude of increases in the demand for feeder cattle needed to negate the increased costs of implementing Country-of-Origin Labeling such that producers and consumers are no worse off.

Justification

It is anticipated that this study will be used in further research by the Agricultural Marketing Service, government economists, and other policy makers to determine the total costs and benefits of implementing Country-of-Origin Labeling regulations in the

agriculture industry, more specifically the beef industry. This research promises to be beneficial and provide important, useful information for the decision-making and development of the new proposed provisions of implementation and compliance regulations associated with mandatory Country-of-Origin Labeling.

The other main potential benefit of this study will be to provide all sectors of the cattle industry with documented information and market analysis of supply and demand cost curve shifts associated with mandatory COOL. This research will be useful as they develop and incorporate new production, operation and management practices, and protocols for company compliance with mandatory COOL regulations.

Procedures

This study of the economic impact of mandatory COOL in the beef industry is conducted primarily on U.S. cattle back grounders/stockers, cattle feeders, meat packers/processors and retail distributors and stores. These segments make up the beef industry beyond the ranch gate.

Primary data collection began with a mailed questionnaire survey and telephone survey of industry participants for prepared cost estimates and verification questions pertaining to how the company will respond to COOL regulations. Data collected from cattle backgrounders/stockers, cattle feedlots, beef packers, processors, retail chain stores, and distributors consisted of financial records and information related to incremental and capital expenditures (costs) and productivity identification and distribution. This collection allowed for calculation of the full economic cost and production changes to implement COOL. With these data, a weighted average cost

estimate and percent change in costs was formulated on the basis of the number of head produced, fed, slaughtered/processed, and/or the pounds of beef sold.

The weighted average cost estimate was used to determine the magnitude of increases in the demand for wholesale beef and retail beef needed to negate or offset the decreases in derived supply of wholesale beef and fed cattle caused by the increased costs of implementing COOL. An equilibrium displacement model was used to demonstrate the supply and demand functions and relationships for retail beef, wholesale beef, fed cattle, and feeder cattle (Davis and Espinoza 1998). Once this first step was complete, estimated elasticities for retail beef, wholesale beef, fed cattle, and feeder cattle were used from a research study conducted by Brester and Marsh (Brester 2004). The elasticities were used to calculate the relative changes in price in response to the COOL-induced supply and demand shifts. The price intercepts from the estimation of the linear parameters were used to calculate the increases in consumer demand needed to negate the increases in costs estimated from the survey results for the retail, wholesale, fed cattle, and feeder cattle sectors of the beef industry.

In addition to calculating the increases in consumer demand needed to negate the increases in costs at the various market levels of the beef industry, the changes in producer and consumer welfare (surplus) are determined. By specifying the calculated values for the linear supply and demand functions, the price intercepts, equilibrium price and quantity for each of the market levels; the changes in producer surplus at each market level, consumer surplus at the retail level and overall social welfare can be generated.

CHAPTER II

LITERATURE REVIEW

Labeling Policy and Economics

How much do people know about the food they are eating? This is a question that has prompted much debate among government officials, policy makers, consumer groups and other industry affiliations due to the complexity and ambiguous nature of the problem. As a member of the Economic Research Service (Golan et al. 2000) stated, “There is a lot to know about the food we eat.” For example, the ground beef for a hamburger could come from a producer just down the street or from a producer in a foreign country 3000 miles away; they could be produced on a huge corporate cow-calf operation or on a small family-run ranch; they could be produced using hormones and other feed additives or in a hormone, stress-free environment. No matter what particular food product is being described, the information will likely include a myriad of attributes (Golan et al. 2000).

In the United States and much of the world, the key form of describing the many attributes of a food product is through the use of a food label. The intent of a food label is to help or aid consumers in differentiating the labeled products from those products with similar characteristics (Golan et al. 2000). In other words, a label provides the consumer with the information of the most desirable attributes of the food product. According to the Economic Research Service (Golan et al. 2000), “by doing so, this allows the consumer to use their purchasing power and political activities to help determine what information will be provided on the labels.” This is important because

private firms can use this strategy to enhance and increase economic efficiency and profitability by changing consumer's purchase decisions to target products they most want through the use of voluntary labeling.

For voluntary labeling to be effective and provide the most desirable attributes of a food product; consumers, food processors, third-party entities and the government will all have to play a major role. As Golan et al. (2000) stated, "For third-party entities, their role is to increase the reliability and credibility of voluntary labels by providing standard setting, certification, testing and enforcement services." By providing these services, the value of the information on the labels is increased and the statue of market efficiency has been boosted. Market efficiency is not only dependent on the actions of third-party entities, but also on how the government's policy decisions affect consumer preferences and purchasing power.

Government intervention is a vital and key ingredient in determining what information is placed on a label and how this information should be regulated. Government's role in labeling serves three purposes: to ensure fair competition among producers, to increase consumer's access to information, and to reduce risks to consumer safety and health. The purpose of the government in labeling foods is to align the individual consumer's consumption choices with social and welfare objectives. The government may develop and impose low-cost policy tools that provide the consumer with the needed information to make desirable choices while also looking to boost the welfare of society (Golan et al. 2000). Accomplishing this goal may be difficult and

eventually require the government to impose mandatory labeling, the decision that some of the information must be labeled on the product.

Mandatory labeling is an information policy tool aimed at alleviating problems of asymmetric information due to the concerns of the consumer's right to know and the need for fair competition in the marketplace. The literature on labeling indicates that demands for mandatory labeling arise from two general situations: when the market does not supply enough information to allow consumers to make consumption choices mirroring their individual preferences; and when individual consumption decisions affect social welfare differently than they affect the individual consumer's welfare." Given these economic situations, the effectiveness of mandatory labeling relies heavily on the quality and nature of the information, the context in which the information is delivered, and the source of the information (Golan et al. 2000). This is especially true when the government intervenes in labeling decisions with a mandatory labeling law or program. Pertinent and credible information is vital and a must in the government's decision to determine if the proposed law or program is a low-cost policy tool. However, mandatory labeling may not increase demand enough to offset the cost. Government intervention in labeling decisions may not always be the best policy option.

For many food products, mandatory labeling is not a new activity or policy tool in the United States. For example, as amended under the Tariff Act of 1930, every imported item or product into the United States is required to indicate to the "ultimate purchaser" its country of origin, given certain exemptions that apply to many agricultural products (Brester 1999). Livestock, but not processed livestock, are "J" list commodities

exempt from the existing country-of-origin labeling requirements. These particular commodities are usually combined with similar domestic products during processing and marketing. Whereas, the commodities or products that are not exempt from country-of-origin labeling requirements must list the country of the imported product through the marketing channel until acquisition by the ultimate purchaser (Brester 1999).

For beef, the issue of who constitutes the ultimate purchaser of an imported commodity is important and poses some key questions. The U.S. Customs and Border Protection, the agency which administers the Tariff Act, has determined the U.S. processor and manufacturer (meatpacker) is the “ultimate purchaser” for products imported in the United States that will be substantially transformed into different products and therefore, are exempt from country-of-origin labeling laws (GAO 2000). The exemption for maintaining country-of-origin information is due, in a large part, to the fact that meatpackers and processors are given different guidance rules and regulations by the United States Department of Agriculture and the Customs and Border Protection does not enforce the act’s labeling requirements for meat after inspection at the border (GAO 2000). As currently enforced by the U.S. Customs and Border Protection, the ultimate purchaser may not be a product’s final consumer; but rather, the last entity to receive the product in the form in which it was imported. If an imported commodity (e.g., imported beef carcasses and/or trimmings) is purchased by a domestic firm and the firm substantially transforms the commodity into a different product (e.g., ground beef); the transformed product is exempted from having to be labeled “imported.” Whereas, a product (e.g., imported beef carcasses) that is only moderately

altered into a different product (e.g., beef muscle cuts) through processing and fabrication will have country-of-origin labeling identification. Also contained in the Tariff Act is a grandfather clause that exempts a broad list of agricultural commodities which had been imported in substantial quantities in the five years preceding the act's implementation.

In addition to the country-of-origin labeling information requirements specified by the United States Customs Service, the United States has imposed other labeling and inspection policy measures. According to the GAO (2000), "the Federal Meat Inspection Act and the Poultry Products Inspection Act, administered by the USDA, requires that the country of origin appear in English on the carcass or container of all meat entering the United States." Furthermore, GAO (2000) states, "The Food Safety and Inspection Service has the responsibility to enforce safety, wholesomeness, and labeling requirements, including country-of-origin labeling of imports, for all meat and poultry products for human consumption." Unlike the U.S. Customs Service, which requires an imported product to maintain its import identity through to the ultimate purchaser, the United States Department of Agriculture considers imported meat to be part of the domestic meat supply once it passes a USDA safety inspection (GAO 2000). Therefore, once the physical makeup or characteristics of an imported bulk product has been minimally altered during fabrication or processing in a USDA-inspected facility, the new product or its package is not required to have country-of-origin labeling identification (Brester 1999). Given these labeling requirements and those imposed by

the U.S. Customs Service, many believe the pre-existing labeling program in the United States is efficient and provides the necessary safety and informational measures.

In recent years, producer's concerns about the effects of beef and cattle imports on U.S. livestock prices and the hope to promote sales of U.S. meat prompted the passing of mandatory COOL as part of the Farm Security and Rural Investment Act of the 2002 Farm Bill and the 2002 Supplemental Appropriations Act.

Overview of Country-of-Origin Labeling Law

For more information and full details of the act refer to Appendix A. The provisions of relevance to the U.S. beef industry are discussed in detail in the following paragraphs.

Title X of the Farm Security and Rural Investment Act (Section 10018 of the act) provided for an addition to the Agricultural Marketing Act of 1946, Subtitle D. Subtitle D requires retailers to notify their customers by labeling, at the final point of sale, beef, lamb, and pork – both muscle cuts and ground – wild or farm-raised fish, shellfish, perishable agricultural commodities (fresh and frozen fruits and vegetables) and peanuts as to their country of origin not later than September 30, 2004 (USDA/AMS 2003). In addition, the law requires the Department of Agriculture (USDA) to issue regulations to implement a mandatory country of origin labeling program not later than September 30, 2004 (USDA/AMS 2003). However, due too many unanswered questions and possible damages the mandatory country-of-origin labeling law could have on producers and small businesses, Congress made the decision to delay implementation of COOL for two years until October 2006.

The law defines “retailer” and “perishable agricultural commodity” according to the Perishable Agricultural Commodities Act of 1930 (USDA/AMS 2003). By definition, a retailer is any person who is a dealer engaged in the business of selling any perishable agricultural commodity solely at retail when the invoice cost of all purchases of produce exceeds \$230,000 during a calendar year (USDA/AMS 2003). Given this definition, approximately 4,200 PACA retail licensees operating some 31,000 retail outlets are retailers. Furthermore, by definition Congress has exempted butcher shops, fish markets, and small retailers from complying with country-of-origin labeling regulations that either sell at a level below this dollar volume threshold or do not sell any fruits and vegetables at all. The law (USDA/AMS 2003) further states, “that retailers can provide to consumers the country of origin declaration by means of a label, stamp, mark, place card, or other clear and visible sign on the covered commodity or on the package, display, holding unit, or bin containing the commodity at the final point of sale to consumers.”

For beef, the law specifically identifies to be labeled “U.S. Origin” the product must be derived exclusively from an animal that is born, raised, and slaughtered in the United States. A 60-day allowance is made for U.S. cattle being transported from Alaska or Hawaii through Canada to be slaughtered in the continental United States. As is the case with cattle and beef, difficulties can arise when products are produced in multiple countries. For example, beef may be from an animal that was born in the United States, raised in a foreign country and then slaughtered in either a foreign country or returned to the United States for countries. Furthermore, many animals born in

foreign countries are imported to the United States for raising and slaughtering. Identifying with this problem, the law has defined labeling criteria for all given production scenarios in the beef cattle industry. For example, the law (USDA/AMS 2003) states, “that any animal born in the United States and raised and slaughtered in a foreign country would be labeled “born in the United States, raised and slaughtered in country Y.” On the other hand the law (USDA/AMS 2003) says, “That any animal born in a foreign country and imported to the United States would be labeled as “Imported from country Y, Slaughtered in the United States.”

Many of the covered beef products are commingled or blended products that are prepared from raw material sources having different origins (i.e. ground beef). Under the provisions of the proposed rule, “the country-of-origin declaration of blended or mixed retail food items comprised of the same covered commodity (e.g. package of ground beef) that are prepared from raw material sources having different origins must list alphabetically the countries of origin for all of the raw materials contained therein (USDA/AMS 2003).” For example, a package of ground beef containing beef trimmings from country A and country B would be labeled as “Product of country A, Product of country B.”

There are two important exemptions to COOL. First, COOL is excluded from items where a covered commodity is an “ingredient in a processed food item.” By definition, a processed food item is “a retail item derived from a covered commodity that has undergone a physical or chemical change, causing the character to be different from that of the covered commodity (USDA/AMS 2003).” Further, a processed food item can

be defined as “a retail item derived from a covered commodity that has been combined with either (1) other covered commodities, or (2) other substantive food components resulting in a distinct retail item that is no longer marketed as a covered commodity (USDA/AMS 2003). Secondly, COOL excludes food service establishments from the retailers who must inform consumers of country of origin.

For verification and recordkeeping purposes, the law states (USDA/AMS 2003), “Any person engaged in the business of supplying a covered commodity to a retailer shall provide information to the retailer indicating the country of origin of the covered commodity.” Thus meaning that the information provided to the retailers must address the production steps included in the origin claim (i.e. born, raised, and slaughtered). In addition, the law (USDA/AMS 2003) says, “the Secretary of Agriculture may require that any person that prepares, stores, handles, or distributes a covered commodity for retail sale maintain a verifiable recordkeeping audit trail for a period of at least two years.” Assuring that the information and records provided to the retailers is auditable and credible; self-certification documents and affidavits must be readily available throughout the chain of custody as to the origin of the commodity. In the case of imported livestock that are subject to the act, the verification requirements are somewhat different in that the production or processing functions of the beef supply chain have additional participants. These participants must maintain and provide accurate country-of-origin information to feedlot operators, packers/processors and retailers to ensure an accurate verification system. The law suggests that USDA model its labeling requirements on existing certification programs including those that are in place for

certain other federal procurement programs as well as systems in use in other states or countries. The law (USDA/AMS 2003) further states, “That the Secretary is prohibited from using a mandatory identification system to verify the country of origin of a covered commodity.”

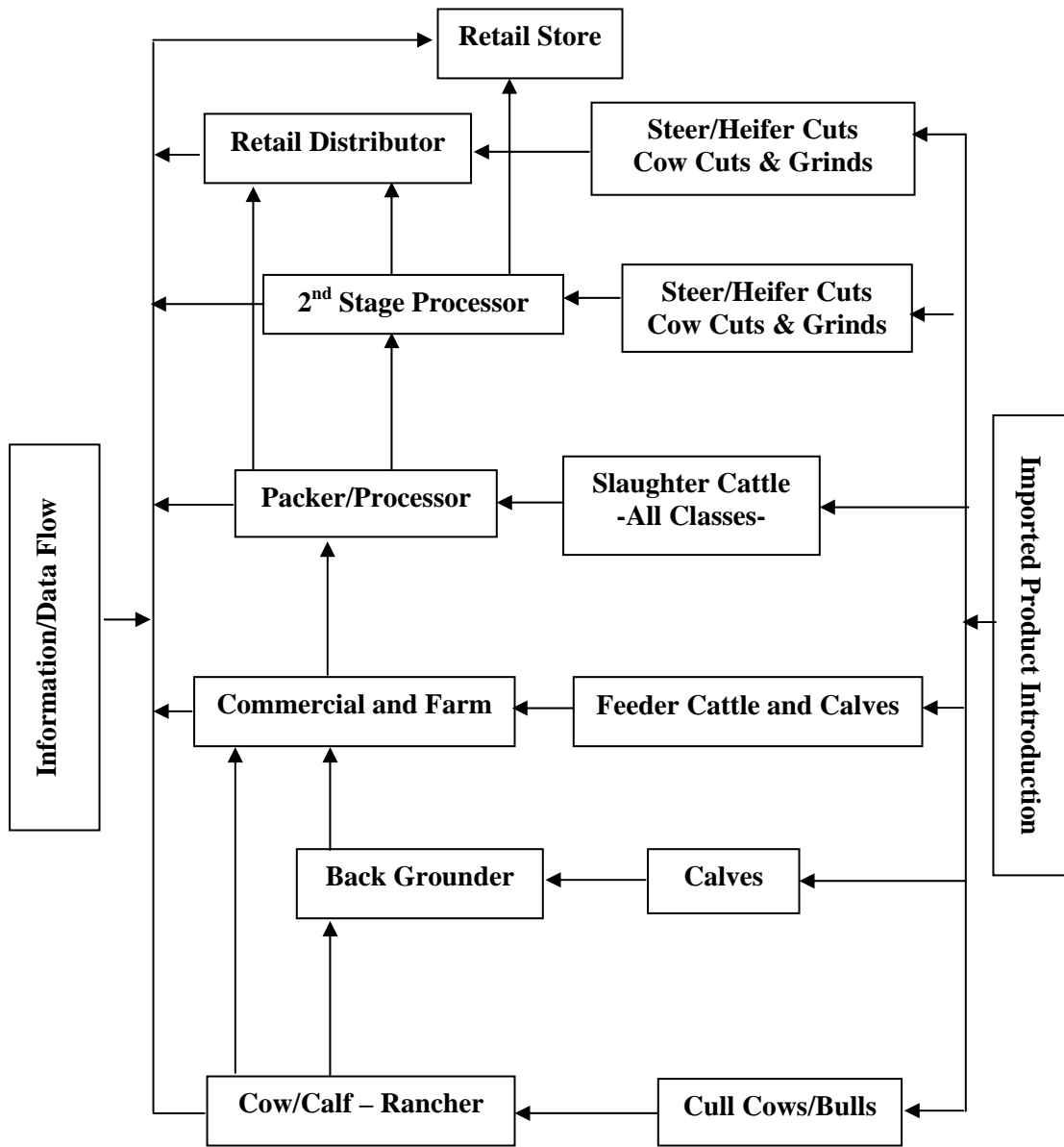
Coinciding with the verification and recordkeeping provisions of Subtitle D, the law has defined and provided relatively strict enforcement and violation provisions. The law (USDA/AMS 2003) states, “that the Secretary of Agriculture is responsible for enforcing actions against a person or business found to be in violation of the law.” Routine compliance reviews may be conducted at retail establishments, associated offices and suppliers subject to these regulations to determine if unacceptable behavior and unlawful business practices have occurred (USDA/AMS, 2003). For retailers, the law (USDA/AMS 2003) states, “that if the Secretary determines that a retailer is in violation of the Act, the Secretary must notify the retailer of the determination and provide the retailer with a 30-day period during which the retailer may take the necessary steps to comply.” If the Secretary finds that the retailer is still willfully violating the country of origin labeling law after the 30-day period and a hearing with the Secretary, the retailer may be assessed a civil penalty with a fine up to \$10,000 per violation.

Potential Direct and Indirect Costs of Country-of-Origin Labeling

COOL is one of the most contentious issues to come around in many years. Steve Kay (2002) called it, “one of the most onerous requirements ever placed on the U.S. meat and livestock industry.” GAO (2000) reported that the proposed guidelines of

mandatory COOL for meat and other commodities will change the nature of the U.S. livestock industry and necessitate changes in the meat industry's current practices. U.S. meat producers, packers, processors, distributors and retailers will have to ensure that the country of origin information on meat packages is established and maintained from the animal in the field to the importation to the grocery store (GAO 2000). As shown in Figure 2-1, the beef industry is a highly complex and vertically integrated industry and these changes in common livestock production and distribution practices would not only present serious logistical challenges, but also create direct segregation, preservation, identification, operational, production, labeling and other compliance and enforcement costs across all sectors of the industry. The ultimate costs of COOL to each sector of the beef industry depends on the number of new activities required to comply with the regulations, and on the extent to which any new activities differ from current production and marketing practices.

Under the provisions of the mandatory labeling act, U.S. producers will likely be required to track and maintain detailed and accurate records on every animal born or entering the country and the movement of their livestock (GAO 2000). The producer will likely have to develop control measures that enable them to provide or convey information to the supplier as to the origin of each animal and verify the information is accurate and auditable. Such control measures would entail using the existing technology and production/management practices to implement an identification system for each domestic and foreign animal by assigning an identification number or marking (e.g. ear tag, electronic chip, etc.) that would transfer and expand the information



Source: Sparks, Inc.

Figure 2-1. Beef supply chain and COOL process schematic

contained on the ID throughout its production process (Sparks 2003). The amount of information that would have to be maintained on the ID tag/chip and the manner in which this information would be maintained is determined by the implementing regulations of COOL. Creating an identification or electronic traceback system for every animal through several sales transactions up to delivery to the feedlot for finishing will require significant labor time and up-front costs (identification tags/chips, record keeping, labor, hardware and/or software) for the producer (Sparks 2003). For many producers importing cattle from Mexico and Canada, these initial costs could be more significant and pose serious logistical problems. Producers who import these animals would incur compliance and record keeping costs to maintain information on the foreign country where each animal was born and raised and thus create a change in the producer's production and management practices.

Similar to the producer's compliance requirements, the feedlot component of the beef supply chain will be likely required to track and maintain verifiable records as to the origin and movement of the livestock. Due to the commingling of feeder cattle and cull cows in the U.S. beef industry, feedlots will likely have to reconfigure their pen space to segregate U.S. born and raised cattle from any other cattle imported from other foreign countries. Further, feedlots will have to ensure that every animal on feed has its ID number or marking or passport. Any animal that has not already been origin tagged will require the feedlot to view records of the animal and tag for origin verification (Sparks 2003). Such production practices and procedures would add significant costs, associated with the purchase of scanners, associated labor needed for feeding

segregation, data storage, retrieval and pertinent Information Technology (IT) systems needed to properly track cattle, to the feedlot operation (Sparks 2003).

As discussed earlier in this chapter, packers and processors are classified as the primary parties responsible for ensuring the country-of-origin labeling of meat products is maintained to the ultimate purchaser (GAO 2000). Under the Tariff and Federal Meat Inspection Acts, the country where the animal is slaughtered is considered the country of origin for the meat products deriving from that animal. Due to the requirements and stipulations in the current labeling laws and programs, the General Accounting Office (2000) states, “meatpackers and processors generally neither need nor maintain detailed country-of-origin information concerning the animals they buy from U.S. or foreign producers.”

Compliance with the new mandatory country-of-origin labeling regulations will require meatpackers and processors to receive and maintain accurate, detailed records about the domestic and international movements of the animals they purchase from U.S. producers (GAO, 2000). Furthermore, the article by GAO (2000) states, “meatpackers would need to maintain accurate country-of-origin records (documents) on meat from both cattle imported for direct slaughter and the cattle purchased from U.S. producers that had been imported from Mexico and Canada and raised in the United States.” Depending on the identification stipulations of the implementation regulations, packers may need additional animal-holding pens and meat storage and chilling facilities to segregate animals and meat (carcasses, organ meats, boxed beef, and other parts used for human consumption from slaughtered animals) by country of origin (GAO 2000).

Segregating carcasses and meat would most likely require packers to build additional refrigerated storage space and enlarge the meat-cutting and fabrication area of their facility.

Similar to the production changes of the meatpackers, processors may need to separate meat from different countries before entering their production runs and production lines-cutting, grinding, and blending to avoid contamination of various meat products and identification problems (GAO 2000). Segregating meat products may require processors to shut down production lines between shifts or runs, placement of the meat in different chilling and storage areas, and/or labeling or marking the meat with the appropriate country of origin (GAO 2000). According to the article (GAO 2000), “such production changes would require the processor to need additional equipment, such as refrigeration units, storage bins and racks.” Furthermore, processors would likely need new labels and/or labeling equipment, redesigned packaging or some other method of identifying the country of origin of the ground beef and other blended meat supply in the U.S. (GAO 2000). Ground beef and other blended meats would pose a serious challenge for processors because the country-of-origin labeling act requires blended meats to be labeled in such a way as to list the country or countries of origin of the animals from which the meat is derived in alphabetical order. In the United States this scenario would be burdensome to the processor, in the sense that, in order to meet the consumers demand for ground beef in this country, U.S. processors typically blend the fatty trimmings from domestic beef with leaner cuts and trimmings from imported beef or domestic cows or bulls.

For meat packers and processors, the costs of implementing country-of-origin labeling for imported live fed cattle, carcasses and boxed beef muscle cuts would include segregation and preservation of the identity of imported meat, additional refrigeration coolers and storage facilities/bins, additional accounting and auditing, data storage, scanning hardware and/or software, labor and management, record keeping, labels and equipment, and other capital and operational costs (Sparks 2003).

Retail grocery stores and distributors, as stipulated in the country-of-origin labeling act, is the primary sector of the industry responsible for ensuring the integrity of the country-of-origin labeling of meat is maintained to the consumer (USDA/AMS 2003). Meaning, retail grocery stores and distributors will be required to verify and record all information pertaining to the country of origin of all products moving through the distribution center. Due to the fact the retail grocery stores and distributors may be handling covered meat products from several potential origins, segregation of the meat products would be required and the number of stock keeping units (SKU's) will likely have to be increased (Sparks 2003). For compliance purposes, retail stores and distributors may have to separate their storage, cutting and grinding operations to keep meats from different countries segregated which, in turn, would require additional training and labor time. Also, the addition of country-of-origin labeling information on meat packages or labels may require the grocery stores and distributors to modify or replace packaging and labeling machines and equipment (GAO 2000). For retail grocery stores and distributors, the costs associated with changing production practices would include record keeping and identification, labor and management, additional accounting

and auditing, scanning hardware and/or software, segregation of product-more SKU's, more slots, etc., and other capital and operational costs (Sparks 2003).

Aside from the direct costs that country of origin labeling requirements will likely impose on U.S. producers, feedlots, packers and processors and retailers if implemented, there are several possible indirect costs resulting from the implementation of COOL. First, are the potential costs resulting from food safety concerns arising from pathogenic-induced problems (e.g. E-coli or Lysteria contamination). Although mandatory country-of-origin labeling is not looked upon as a food safety issue, such problems could cause consumers to temporarily avoid identified products. As noted by Brester and Smith (1999), “under country-of-origin labeling, food safety concerns may become associated with a specific country’s product, resulting in lost market share and adverse price affects. Most beef related food safety hazards are not country-of-origin specific, as they tend to occur at the processing and meal preparation stages.” Furthermore, Brester and Smith (1999) go on to say, “the likelihood of any given country’s beef products being associated with a food safety problem is proportional to its market share. Given that U.S.-produced beef accounts for over 85% of U.S. beef supplies, U.S. beef is more likely to be associated with any given contamination incident.” Second, are the potential costs associated with lost sales and market share from changes in consumer preferences and purchasing power. Although the quality of U.S. beef may exceed Canadian fed beef on average, some U.S. consumers may actually begin purchasing and preferring the consistency of imported Canadian beef to U.S beef (Brester 1999). Such changes in buying behavior and consumption preferences could be

a result of not wanting to pay the potentially higher prices for domestic beef that may stem from the implementation of COOL. As a result of these changes, domestic demand and prices could suffer and the effects could potentially decrease profits and the U.S. beef market share.

Third, are the possible costs associated with negative international trade implications and ramifications resulting from the implementation of country-of-origin labeling. According to a report issued by the U.S. General Accounting Office (GAO) (2000), “Any labeling law would need to be consistent with international trade rules that the United States has agreed to, including those embodied in the World Trade Organization (WTO) and the North American Free Trade Agreement (NAFTA), in order to withstand any challenges that could be brought by U.S. trading partners.” Thus meaning that all participants in the mandatory country-of-origin labeling program must be in accordance with all pre-existing trade regulations and laws. The fact that many firms may choose to stop importing entirely, to avoid significant changes in the production and processing stages and extensive record-keeping burdens, could be devastating to the U.S. import/export market and result in charges in the WTO that mandatory COOL regulations deny national treatment to U.S. trade partners (Ikenson 2004). The GAO (2000) report goes on to say, “U.S. trading partners could view any such law as inconsistent with U.S. trade obligations and could raise concerns that such country-of-origin labeling requirements might adversely affect their exports to the United States by, for example, raising costs and/or lowering the demand for their products.” Given this fact, many of the U.S. trading partners have made it clear to U.S.

officials they might decide to more strictly enforce their own labeling laws, impose labeling requirements if not previously implemented and/or stop import and export trade with the United States entirely (GAO 2000). For the beef industry, such an outcome could have detrimental short-run and long run results in the beef industry and has many cattle industry officials concerned that country-of-origin labeling requirements could adversely affect the developing integration of the cattle industry among the United States, Canada and Mexico (GAO 2000).

Finally, are the potential costs associated with the U.S. beef market share and competing meats. In the marketplace beef competes with other meats and fish (for example, poultry, pork, lamb and salmon) for consumer food expenditures. If costs associated with COOL are relatively large, U.S. beef producers may lose market share to other meat (i.e. poultry) and fish products. These effects could offset potential U.S. beef market share increases induced by COOL. This is especially true given that poultry products are exempt from the country-of-origin labeling requirements in the 2002 Farm Bill act.

Since the release of the proposed mandatory of COOL requirements in the 2002 Farm Bill, a number of individuals and organizations have put forth estimates of the costs of COOL implementation. The various studies pertaining to the implementation and compliance of COOL have a broad range of cost estimates for numerous covered commodities. For this research, cost estimates will focus on the beef industry. Estimated beef industry costs range from \$200 million to \$5.9 billion dollars.

Previous research has shown the implementation of mandatory COOL will impose a significant cost burden on all sectors of the beef industry. A study conducted by Dr. Ernie Davis (2003), estimated that the COOL requirements will cost the beef industry a total of \$5.92 billion dollars. Dr. Davis estimated cow-calf producers costs of \$1.278 billion dollars for permanent identification, record keeping, and auditing. Stocker cattle operator's costs were estimated to be \$9.57 million dollars for additional record keeping. Dr. Davis estimated increased cattle feedlot expenses of \$23.64 million dollars for additional record keeping, bar coding, and the segregation of individual animals. The study estimated packer and/or processor cost of \$473 million dollars for additional warehousing, equipment, record keeping, and auditing. Finally, Dr. Davis estimated increased retailer costs of \$4.608 billion dollars for additional incremental operating costs, additional warehousing and equipment, record keeping, and auditing.

A similar study conducted by Cattle Buyers Weekly (CBW) (Kay 2002) estimated that the COOL requirements would cost the beef industry alone, from \$1.4 billion to \$1.9 billion annually. CBW estimated it will cost \$5 per head to track cattle from the ranch to the packing plant. An estimated \$15 per head would be warranted for packers to reconfigure their slaughter and fabrication departments to maintain the identity of cattle into boxed beef. CBW estimated it would cost retailers \$.05 per pound of beef sold to reconfigure their meat departments to maintain product identity, to maintain required record-keeping at individual stores and to place COOL labels on every beef item in the meat case.

A study conducted by Sparks Companies, Inc. (Sparks 2003) for the Sparks/CBW COOL Consortium also indicated that the implementation of COOL would assess large costs on the beef industry. All production stages of the beef supply chain would experience increased costs, ranging from \$198 million dollars for the cow-calf and backgrounding segment to an estimated \$109 to \$167 million at the feedlot level. Costs for the packer/processor segment range from \$435 to \$522 million dollars. Packer/processor costs exceed live animal owner costs because packers would incur large costs for segregating beef products during the slaughter and fabrication stage of production. Finally, the Spark's study estimated costs at the retail distribution and store level of \$23 per head or roughly \$800 million dollars. For the industry in total, it is estimated that the annual cost to satisfy COOL requirements will range from \$1.5 billion to \$1.7 billion dollars.

The American Meat Institute generally agreed with Davis, CBW, and Sparks Companies in that the implementation of COOL will assess a tremendous cost burden on each sector of the beef industry. AMI estimates it will cost cattle producers \$246 million dollars to incorporate mandatory animal ID and verifiable record keeping for all cattle at every cattle production operation. Costs for packers and processors was estimated at \$182 million dollars to restructure fabrication and distribution facilities, add storage and chilling space and purchase new labeling and packaging equipment to maintain verifiable records/documents for segregation of domestic and foreign carcasses, boxed beef and other parts thereof specific to livestock. AMI estimated retail supermarket and grocery store costs of \$375.12 million dollars to separate storage, cutting and grinding

operations and equipment, add new labels, packages and display place cards and maintain verifiable documentation to support all label/origin claims. In addition, to providing costs estimates for the various sectors of the beef industry, AMI also estimated it would cost the USDA/FSIS \$60 million dollars to oversee all enforcement functions to verify COOL of livestock presented for slaughter and all resulting meat products throughout meat production and distribution chain. For the beef industry in total, it is estimated to cost the beef industry \$1.005 billion dollars to comply with the mandatory COOL requirements (AMI 1999).

Finally, the results from a study conducted by VanSickle et al. (2003) conclude the implementation of COOL will impose a cost on the beef industry but will be significantly lower than previous research has shown. VanSickle et al. estimates the costs of implementing COOL regulations in the beef industry will total \$200 million dollars. As for why VanSickle's cost figures are much lower than the estimates given by Davis, CBW, Sparks, and AMI, the reason is because VanSickle et al. assumes that not all of the costs will be needed for compliance with COOL.

In summary, the actual total costs of implementing COOL to the beef industry is uncertain, as seen by the broad range of cost estimate studies; but the fact remains that COOL will incur some level of costs burden to the industry. And as the USDA stated, "the costs incurred by cow-calf producers, importers, feedlots, packers/processors, wholesalers and retailers to segregate and to preserve the identity of meat products, as well as the government expenditures that would be necessary to insure compliance with mandatory country-of-origin labeling regulations, would be too high and would

outweigh the benefits of the label (USDA/FSIS 2000). Thus, imposing a large cost burden on all sectors of the beef industry.

Potential Benefits of Country-of-Origin Labeling

In contrast to the direct costs of mandatory country-of-origin labeling, but a vital component to the analysis of the true economic impact of COOL on the beef industry, are the potential benefits of implementing mandatory country-of-origin labeling regulations. Although the possible benefits COOL are speculative, proponents of mandatory COOL argue the law is desired by both producers and consumers and would benefit both parties both in the short-run and long-run.

The biggest, and most obvious, benefit to consumers is that country-of-origin labeling would provide consumers with additional information about the origin of the meat products they purchase. As stated by the U.S. Food Safety and Inspection Service (2000), “for benefits to exist, consumers must value domestic production more highly than imports and cannot make that choice because there is insufficient market information.” Mandatory labeling would help consumers identify and choose between domestic and foreign meat products, who are otherwise unsure and who may be willing to pay a premium to know they are buying American food. By allowing consumers to be better informed of the meat products they are buying, social welfare would increase through increased market information and industry markets would benefit from more efficient operation and productivity measures. Information availability enables U.S. consumers to choose to purchase U.S.-produced beef because of preferences for domestically produced products (Brester 1999). Therefore, consumer preferences would

be better satisfied and met by industry producers and in turn increase the demand for U.S. meat products.

Such increases in the demand for U.S. meat products could be beneficial to U.S. cattle producers. If the absence of labels precludes filling some consumer demand and labels make it feasible only for domestic producers to fill the demand, then the increases in U.S. demand for domestically produced beef would support higher U.S. beef prices in the short-term. Longer term, though, higher prices would lead to increased production and lower prices. Thus, the welfare of domestic producers would be improved by implementing the law. The key is to remember that the increases in the prices of U.S. origin beef, without a loss in market share, must be enough to offset or negate the costs of COOL to producers, packers/processors and retailers, assuming that retailers and processors will pass-back their costs in the form of lower bid prices, for mandatory COOL to be beneficial to cattle producers.

Occurrence of both short-term and long-term benefits to domestic producers and consumers depends heavily on two market conditions. The first condition, which was previously discussed in this chapter, is current beef markets must provide sufficient information for consumers to differentiate between domestic and imported meats (USDA/FSIS 2000). The second market condition stipulates that consumers must be willing to pay a price premium for domestic products or be willing to select domestic over imported products by a wide enough margin to pay for the costs (USDA/FSIS 2000). Proponents of COOL argue that U.S. consumers are willing to pay the price

premium for domestic beef. Several studies have been conducted in recent years researching this argument.

Wirthin Worldwide (1999) conducted a consumer study that indicated that 76 percent of U.S. consumers support country-of-origin labeling for meat. Furthermore, the survey results show that 91 percent of consumers say they would choose beef products labeled as “Product of the United States” over similar products labeled as “Product of Canada, or Australia, or New Zealand.” Finally, only 6 percent indicated that they had no preference among these choices.

A similar study regarding consumer willingness-to-pay for beef labeled as to country-of-origin was conducted by Umberger et al. (2003). The survey was performed with consumers in Denver and Chicago. The results indicated that 73 percent of survey respondents in Denver and Chicago indicated a willingness to pay a premium for labeled U.S. beef. Furthermore, the survey results showed, consumers were willing to pay an 11 percent and 24 percent premium for steak and hamburger, respectively, which was labeled as to country-of-origin (Umberger et al. 2003). Finally, the Umberger et al. study used an actual auction to determine that consumers were willing to pay an average of 19% more for steak labeled “Guaranteed USA: Born and raised in the U.S.” This study was criticized, however, for the way the consumer choices were administered.

Regardless if some consumers are in fact willing to pay more for U.S. beef products, some problems and unanswered questions have been raised pertaining to the accuracy and reliability of the willingness-to-pay surveys. Many opponents of COOL argue willingness-to-pay studies do not provide accurate and realistic results and

consumers do not want or need additional information and labeling. One criticism of willingness to pay surveys is that survey respondents' reactions are a function of the questions asked (Collins 2003). Secondly, survey respondents face no real budget constraint during the actual data collection process. Respondents can say one thing, but do another when it is their money on the line. A third reason for the uncertainty is the timing of the consumer's purchase decisions. Consumer's purchase or buying decisions change throughout the year, seasonally. Collins argued that a price premium is unlikely to be captured in the marketplace because the supply of U.S. beef is likely to far exceed the quantity of beef demanded by those who actually would pay more. According to Plain and Grimes (2003), "The fact that 65 percent to 75 percent of Americans profess to be willing to pay a premium for certified U.S. origin beef does not translate into a higher price for U.S. origin beef when 89 percent of the steaks and roasts and 75 percent of the trimmings (e.g. ground beef) are already of U.S. origin. Thus, any attempt to price U.S. beef at a premium would result in excess supplies of U.S. beef at a premium price, which would result in the premium being competed down to a market clearing price."

Aside from the actual potential information and price benefits, mandatory COOL will likely increase consumer confidence by allowing them to feel informed and knowledgeable, even if they do not actually read the label information, argued VanSickle et al. (2003). VanSickle et al. suggested that consumer confidence incorporates the risk reduction benefit, whereby the consumer feels protected and perceives that they are at a reduced risk of harm.

Associated with the risk reduction benefit of consumer confidence, is the opportunity that mandatory country-of-origin labeling will reduce the risk and costs due to food safety and traceability issues (VanSickle et al. 2003). Although COOL implies nothing about food safety, tracking or traceability, some believe mandatory COOL will provide the necessary information and framework needed to aid or quicken the response time to traceback the origin and reduce the economic and health implications of certain pathogenic-induced problems or recalls (e.g. E-coli, Lysteria or Salmonella contamination) and disease outbreaks (e.g. Bovine Spongiform Encephalopathy (BSE), foot and mouth disease, etc.) that may originate in the United States or some foreign country. This holds especially true, in leau of the recent case of BSE, otherwise known as mad cow disease, in Washington State whereby many COOL proponents expressed concern and argued that this is the perfect example as to why mandatory country-of-origin labeling should be implemented in the food supply chain. Although it is not certain that mandatory COOL would have changed the outcome or results of the BSE incident, the fact remains that some packers/processors and retailers, that must segregate and identify meat products, can avoid the tremendous losses emanating from shutdowns and recalls (Ikenson 2004). In addition, consumers can avoid products from affected countries that are already in the retail meat case or in the consumer's freezer. Thus, the implementation of mandatory country-of-origin labeling may possibly present some beneficial food safety and traceability measures to the sectors of the beef industry and consumers.

Although potential benefits (i.e. information availability, higher prices, food safety and traceability) may occur to consumers and producers, the United States Department of Agriculture believes, “the estimated benefits associated with this rule are likely to be negligible.” Therefore, the costs of implementing mandatory country-of-origin labeling regulations will likely outweigh the benefits and thus, cause a significant economic burden to all sectors of the beef industry.

Market Structure and Economic Theory of the Beef Industry

How will the costs of implementing mandatory COOL be distributed within the supply chain of the beef industry? The likely answer to this question is that costs of implementing mandatory COOL will be passed on to consumers in the form of higher prices or, more likely, passed down the beef supply chain to cattle producers as lower prices (input). Understanding the economic theory behind this answer requires a brief discussion and look into the market structure and oligopoly/oligopsony pricing power in the beef industry and the market analysis of supply and demand relationships and elasticities of beef.

The U.S. beef industry has undergone numerous clear and continuing changes in market structure and pricing behavior over the last thirty years. According to Azzam (1995), the restructuring in the industry has primarily focused on either economies of scale, whereby existing firms were replaced with fewer, larger, more efficient ones, or multiform operating economies, whereby the reorganization and consolidation of assets of existing firms transformed into a more efficient configuration, or both. The result of such restructuring has led to more highly concentrated ownership structure, improved

cost efficiency, and increased market power (i.e. oligopoly and/or oligopsony) among the sectors of the beef supply chain.

Unlike many industries in the U.S. economy, the beef industry fits the profile of both oligopoly and oligopsony. By definition, an oligopoly is an industry with a few sellers, protected from additional competition by some kind of barrier to entry (Oligopoly Watch 2003). In other words, oligopoly is an industry in which the number of sellers is small enough for the activities of a single seller to affect other firms and for the activities of other firms to affect him. Very large-scale economies could be one factor limiting the market to a few sellers. The firms in an oligopolistic industry know their rivals and take their actions into account in formulating their own strategies. Further, firms in the industry typically produce and sell “differentiated products”, which in turn means products that are very good substitutes for each other and have high cross elasticities of demand (Leftwich 1964).

The existence of oligopoly market power within the beef supply chain lies with the pricing behavior of wholesalers and retail chain stores and distributors. Wholesalers and retailers maintain oligopoly power by selling packaged beef (raw materials). In many cases, the raw materials (beef) are costly to transport, due to their bulk nature and/or perishability (Azzam 1995).

Oligopsony is an industry where a market has only a few buyers (Oligopoly Watch 2003). Within the beef supply chain, oligopsony market power is evident in the pricing behavior of meat packers and processors. Meat packers and processors are supplied by numerous price-taking producers and face only a small number of retailers

and/or wholesalers as prospective buyers. Generally, fewer buyers mean less demand for slaughter livestock and less buyer competition, both of which lead to lower livestock prices. Meat packers and processors take advantage of oligopsony power by depressing cattle prices, which in turn can lead to increases in beef prices (Morrison-Paul 2001). Such increases in beef prices may be a result of a trend toward fewer and larger plants, increased consolidation among larger firms and higher levels of concentration. The heightened concentration and consolidation of live cattle procurement allows beef packers and processors to maintain market power in the beef supply chain (Azzam 1995). As noted by Ward (2001), high levels of concentration in the U.S. meat packing industry are believed to be associated with lower prices paid for inputs (e.g. feeder cattle) or higher prices charged for outputs (e.g. beef and by-products). In other words, high concentration in the meat packing industry may allow firms to behave in a noncompetitive pricing environment (such as the exercise of oligopoly/oligopsony power).

A number of studies have attempted to measure the effect of behavior on performance, i.e., the existence of oligopoly/oligopsony price distortion and evidence of market power among the sectors of the beef supply chain. Past research has demonstrated varying results and conclusions.

A study by the Economic Research Service (Matthews et al. 1999) found that increased concentration was associated with higher fed cattle prices. The findings were a result of using the Herfindahl-Hirshman Index (HHI) on monthly data for 1979-96 and

for the sub-period 1992-96 as a means of measuring the concentration in beef packing and determining price spread changes.

In contrast to the findings of the Economic Research Service study, Ward and Stevens (2000) found that beef packer concentration has not translated into a weakening of the price linkage between producers and packers or between packers and wholesale (i.e., purveyors-processors). They concluded that most of the pricing behavior change occurred at the retail level and not at the packer level and that concentration has not adversely influenced the speed of price transmission in the beef chain. Thus, increased beef packer concentration had little aggregate effect on price linkage between producers and packers.

Although results from these studies may vary, the research by the Economic Research Service lends support to the hypothesis that concentration may allow firms in the beef industry to behave in a manner that leads to lower input prices, higher output prices or a combination of both. However, other research has indicated that changes in the meat packing sector have led to higher cattle prices (Ward, 2002). Other research has shown that as few as three buyers in the marketplace were enough for a competitive market to emerge (GIPSA, 1996). Regardless, behavior is responsive to each of the sectors in the beef supply chain passing the lower prices, resulting from added costs, down to their supplier until it reaches the producer level.

In the oligopoly/oligopsony setting, in which firms may exercise some power over price for agricultural input and/or output products, it is important to explore the connection between market power and marketing margins (i.e. farm to wholesale,

wholesale to retail, or farm to retail) (Ward 2002). According to Ward (2001), “the U.S. beef industry, more specifically the meat packing industry, is a high volume, low-margin business. Meaning gross margins for the firm will be about the same, given each of the firms pay about the same price for inputs (i.e. cattle, labor, etc.), and all receive about the same price for the outputs (cattle, meat, by-products, etc.). Ward (2001) goes on to say, “the difference in the profitability (i.e. having higher or lower net margins) for the firm is the costs of operating the business.” In other words, higher cost firms will be less profitable and lower cost firms will be more profitable. Therefore, the key for a margin business is to focus more on maintaining the same gross margin over time, thus allowing a firm to control net margins by managing the firm’s operating costs. As seen, structural characteristics (i.e. concentration, consolidation, marketing power, pricing distortions), may allow firms to behave in a manner that leads to lower input prices, higher output prices, or a combination of both. In any of those cases, firm’s operating costs would increase and marketing margins would widen (*ceteris paribus*) (Ward 2001). Recent research has been conducted on this issue of marketing margins and oligopoly/oligopsony pricing distortions.

Matthews et al. (1999) concluded that increased concentration was associated with lower farm-wholesale marketing margins. The findings from Matthew’s research hypothesized that gains experienced from capitalizing on economies of size may be shared with cattle feeders, consistent with previous research (Ward, Koontz, and Schroeder 1998).

The need to operate a low-cost firm in a margin business (i.e. the beef industry) is vital to the success and profitability of the industry. The driving force of profitability of the beef industry is to operate larger, cost efficient businesses at capacity. Economies of size, concentration, consolidation and utilization are key components that affect the level of costs, which in turn directly affects the performance of the firm.

The implementation of mandatory COOL regulations increases the marginal costs of production to each sector of the beef industry (supply chain). Given the oligopolistic/oligopsonistic market power and market structure that exists in the beef industry, firms within the various sectors will be able to use this pricing power and pass the added costs on to the consumer in the form of higher beef prices or pass the higher costs down the supply chain to the cattle producer in the form of lower cattle prices. As a result of the increases in costs, the profitability and possibly production for each firm of the industry will likely be reduced or diminished in some capacity.

The economic and theoretical nature of cost distribution in the beef industry relies on the relationships and elasticities of the supply and demand of beef (i.e. specifically the inelasticity of the demand for beef) in each of the sectors of the supply chain.

Supply of beef is defined as the various quantities of beef that sellers will place on the market at all possible alternative prices, other things equal (McGuigan 1999). In other words, the supply of beef is the relationship between prices and quantities per unit of time that sellers are willing to sell. The supply of beef that suppliers are willing to offer to the market can be influenced by a number of economic and social factors; the

most important factors being (1) the price of beef, (2) the costs of the resources used to produce beef (the product); and (3) the technology available to produce beef. Supply refers to an entire supply schedule or supply curve. The supply curve is upward sloping to the right, which means that alternative prices have a positive relationship with quantities. In other words, the higher the price of beef the more the sellers will place on the market. Lower beef prices result in reduced supply from producers. A higher price will induce sellers to place more beef on the market and may induce additional sellers to enter into the market.

Demand for beef is defined as the various quantities of beef that consumers will take off the market at all possible alternative prices, *ceteris paribus*. The quantity of beef that consumers will purchase can be affected by a number of economic and social factors; the most important factors being (1) the price of beef, (2) the prices of competing meats, (3) consumers' tastes and preferences, (4) consumers' disposable income levels, and (5) the number of consumers under consideration. Similar to the conditions of supply, the demand for beef refers to an entire demand schedule or demand curve. The demand curve is downward sloping to the right, meaning that alternative prices have an inverse relationship with quantities. In other words, the higher the price of beef the less consumers will purchase. The lower the price of beef, the more consumers will purchase off the market.

The economic concept referring to the responsiveness of the quantity of beef that consumers are willing to buy given changes in its price, is the own price elasticity of demand for beef. Elasticities can be categorized three ways with respect to its numerical

magnitude. When elasticity is greater than one, demand is said to be elastic. When elasticity equals one, it is said to have unitary elasticity. Finally, when elasticity is less than one, demand is said to be inelastic.

Economic theory and observation show beef demand is relatively inelastic. Distinguishing between quantity demanded and demand for beef is extremely important in understanding the relationship between proportional changes in quantity and price (i.e. shifts in beef supply and demand curves). Quantity demanded is defined as the amount of beef consumers will purchase at a given price, holding everything else (like quality and convenience) constant. Whereas, demand for beef refers to the amount of beef consumers will purchase over a range of beef prices (Marsh et al. 2002).

As previously discussed, the demand curve represents the maximum prices which consumers will pay for different quantities per unit of time. A shift in beef demand occurs when the entire beef demand curve increases or decreases. Changes in prices of competing meats, demographics or health and safety concerns cause the beef demand curve to shift.

The oligopolistic seller's demand curve is typically viewed as indeterminate because of the interdependence of sellers in the industry. Sellers have a difficult time predicting what the reactions of their rivals will be to price and output changes on their part. However, if a single seller knows with some accuracy how their rivals will react to price changes on their part, then the demand curve faced by that seller becomes correspondingly determinate. Generally, the oligopolist is able to influence his/her price, output and demand curve for beef products by increasing consumer demand for

this particular type of beef product and inducing consumers to desert his/her rivals and to purchase his/her own brand. The end result of this action is the price goes to the competitive level.

As demand for beef increases, say due to an increase in retail pork prices that causes consumers to substitute beef for pork, the result is higher beef prices at any level of consumption than prior to the demand shift. Relative prices matter to the consumers; however, per capita consumption is not highly responsive to changes in pork and poultry prices. Although beef expenditures represent a small proportion of the total expenditures, beef demand is highly responsive to changes in consumer expenditures on all goods. According to Clint Peck (2000), “consumer expenditures for all goods rose from less than 90 percent of disposable income in the early 1980’s to near 98 percent by 1999 and beef demand increases 0.9 percent for each 1 percent increase in total per capita expenditures.” Thus, consumer’s willingness to pay higher prices and spend more disposable income for beef plays an important economic role in how much and in what way the costs of implementing COOL regulations will be distributed along the beef supply chain on the supply and demand for beef.

Given the assumption that the demand for beef is inelastic (as almost all past research would suggest), what does this mean, from a theoretical approach, for the distribution of costs of implementing mandatory country-of-origin labeling regulations among the sectors of the beef supply chain. The theory of how added costs from labeling will affect the demand for beef remains to be seen (Smith 2002). John Motley, of the Food Marketing Institute, states, “it will increase costs, and these costs will be

absorbed and reduce returns for retailers, packers/processors and producers, or be passed on to the consumers. This could decrease demand for products affected by elasticity wherein a slight cost increase results in a substantial quantity demanded decrease (Smith 2002). In the absence of a demand increase, consumers would only pay the entire costs of COOL if consumer demand for beef products is completely inelastic. If consumer demands are not completely inelastic and demand increases are not large enough to maintain or increase equilibrium quantities, the incidence of COOL costs (i.e. the effects of increased marketing and marginal production costs on market-level prices) depends primarily on relative supply and demand elasticities at each level of the marketing chain (Tomek and Robinson 1990).

CHAPTER III

RESEARCH METHODOLOGY

The previous chapter provided an explanation and supporting research of the labeling policy and economic implications of the implementation of mandatory country-of-origin labeling regulations in the beef industry. This chapter discusses the methodologies that were used in this study. The objectives of the study were to estimate the total costs borne by retail chain stores and distributors, meat packers and/or processors, cattle feedlots, and cow-calf operators, cattle backgrounders and stockers as a result of implementing and complying with COOL. The second objective was to develop a model using the estimated costs to explain the magnitude of increases in demand of retail beef, wholesale beef, fed cattle, and feeder cattle needed to offset or negate the higher costs at the retail, wholesale, slaughter and producer levels. Research questions were to

- Estimate the capital and incremental expenditures (costs) that mandatory COOL would assess to retail chain store and distributors, meat packers and/or processors, cattle feedlots, and cattle backgrounders/stockers.
- Describe the changes (i.e. increases or decreases) in the total percentage or amount of case-ready products produced and sold by retail chain stores and distributors and meat packers/processors according to the increased marginal costs of implementing mandatory country-of-origin labeling regulations.
- Explore the relationship between domestic and foreign beef as a percent of the total cattle and/or beef fed, processed and sold.

- Determine the percent of cattle slaughtered and/or processed in each category (i.e. fed cattle, dairy cattle, cull cows, bulls, etc.) for meat packers and/or processors.
- Examine the percent of total beef sold by meat packers and processors to the various markets (hotel, restaurant, retail chain store or distributor, etc.) in the food industry.
- Explore the relationship between increases in marketing and marginal production costs and the percent changes (increases or decreases) in production capacity.
- Examine the relationship between the increases in marketing and marginal costs and the market affects on the supply and demand of beef at the fed, wholesale and retail levels of the industry.

This chapter describes the population sampled, development of the survey instrument, procedures used in data collection, data analysis, and the economic model.

Population and Sample

The population for this study was retail chain stores and distributors, meat packers and processors, cattle feedyards (feedlots), and cattle backgrounders and stockers located in the United States. Purposive samples were used in separate survey processes for this study. According to Babbie (1992), purposive sampling may be appropriate for selection of a sample under certain conditions based upon the researcher's judgment. The following criteria were used to analyze the qualities for the participants to be studied and selection of the sample for each beef industry sector.

Retail chain stores and distributors were chosen based on location, 2002 total annual sales (in billions of dollars), number of corporate or franchise stores, and the amount of beef sold annually. A sample of 30 of the top ranking 75 retail chain stores and distributors was selected to participate in the study based on the retail store's or distributor's 2002 ranking of the previous mentioned criteria. The chosen sample of participants accounted for approximately 75 percent of total 2002 beef sales listed.

Meatpacking and processing plants were chosen based on location, plant capacity (head per day), number of plants in the United States, 2002 total annual sales (in millions of dollars), 2002 kill numbers, and U.S. market share. A sample of 27 of the top 30 packing and/or processing plants was selected to participate in the study based on the plant's 2002 ranking of the previous mentioned criteria. The participating sample accounted for approximately 95 percent of the 2002 sales listed.

Cattle feeders selected for the study were chosen based on location, one time capacity, number of U.S. feedlots, 2002 marketing estimates and preferred species of cattle maintained in the feedlot. A sample of 20 of the top 30 cattle feeders was selected to participate in the study based on the company's 2002 ranking of the above mentioned criteria. The chosen sample of feedlots accounted for approximately 80 percent of the market share listed.

Cattle backgrounders and stockers selected for the study were chosen based primarily on location. A sample of 14 Texas and Oklahoma based backgrounding yards was selected to participate in the study on the basis of location. The chosen sample of

cattle backgrounding yards accounted for a small percent (approximately 10 percent) of the total capacity listed.

Development of Survey Instrument

In order to gain a comprehensive look at the economic impact that COOL will assess to each sector of the beef industry and the fact that differences exist in the cost structure, production and/or operational practices and marketing strategies for each sector of the beef supply chain, separate questionnaires were developed to ascertain and collect relevant company financial statistics and estimates and productivity information.

Retail Chain Stores and Distributors

Questions were developed to estimate the increases in total marketing and marginal costs of production resulting from the implementation of and compliance with COOL regulations, explore the relationship between mandatory COOL regulations and the segregation and distribution of domestic and foreign beef products, and determine the effects of mandatory COOL on company productivity. The questionnaire included five areas of measures: capital and incremental expenditures (costs), productivity and distribution of foreign and domestic beef, verification, auditing and documentation requirements from suppliers, case-ready productivity changes and operation labeling procedures.

Each item on the questionnaire survey was developed from previous research and the conceptual background of the sector's cost structure and production practices. The questionnaire items designed to measure or estimate the capital and incremental costs consisted of fourteen separate company fixed and variable costs: labor costs, wrapping

and processing costs, purchasing costs, labeling costs, management costs, additional store space costs, additional refrigeration costs due to the doubling of Storage Keeping Units (SKU's), audit and verification costs, additional warehousing costs, additional cooler space costs, additional store facilities, equipment costs, hardware and/or software costs, and other costs (specifying the particular area of costs). Respondents were asked to provide total fiscal year costs pertaining to the company's response to mandatory COOL regulations. The estimated costs would later be used to calculate the dollars per pound of beef sold for that particular retail chain store or distributor.

The productivity and distribution of foreign and domestic beef was measured in terms of whether or not an individual retail chain store or distributor was going to handle foreign beef, domestic beef, or both. Respondents were asked to indicate whether they would handle country-of-origin beef products other than products born, raised and slaughtered in the United States, and if so, under what conditions and which individual stores would handle domestic beef, foreign beef or a combination of both.

Case-ready production was estimated by asking the respondents a two-part question concerning the company's current production of case-ready products (as a percent of the company's total production line of products) and the changes (increases or decreases) in the percent of case-ready products handled and sold as a result of the implementation of mandatory country-of-origin labeling regulations.

Verification, auditing, and documentation questions were designed to ascertain the appropriate documents and information that retail chain stores and distributors would

require from their suppliers (i.e. meat packers and processors) for compliance with mandatory COOL regulations.

Finally, the questionnaire items designed to measure operational labeling procedures consisted of asking the participants to specify whether the company's operational or production practices included labeling all the beef products themselves or requiring the suppliers to label the beef products prior to shipment.

The questionnaire instrument or survey was reviewed and revised repeatedly after the preliminary draft was developed. The reviews and revisions were made by committee members and several graduate faculty. Reviewers made comments and suggestions critiquing the clarity of each sentence and direction, comprehensiveness of answer categories for the closed-ended questions, readability of items, arrangement of questions, format of questionnaire, fonts and type of questionnaire, and researcher bias.

The final form of the instrument was entitled *Questionnaire Survey for Retailers in the United States Pertaining to the Estimated Costs of Implementing and Complying with the Mandatory Country-of-Origin Labeling Requirements* (Appendix B). The final instrument was printed front (horizontally) on six sheets of 8½ x 11 inch white paper. The questionnaire survey included five sections of six total questions.

Meatpackers and Processors

Similar to the Retail Chain Stores and Distributors, questions for the meat packers and processors were developed to estimate the increases in COOL related total marginal costs, explore the connection between mandatory COOL regulations and the segregation and distribution of domestic and foreign beef products, and determine the

effects of mandatory COOL on plant productivity and market distribution. The questionnaire included six areas of measures: capital and incremental expenditures (costs), distribution of domestic and foreign beef products, categories of processed cattle, verification, auditing and documentation requirements from suppliers, market distribution of beef products and case-ready productivity changes.

Each area of questions on the survey instrument was developed from previous research of the meatpacking and processing sector's cost structure, productivity efficiency, operational practices and marketing distribution channels. The questions constructed to estimate the capital and incremental costs consisted of eleven separate plant fixed and variable costs: labor costs, wrapping and processing costs, labeling costs, management costs, procurement costs, audit and verification costs, additional warehousing costs, additional cooler space costs, additional equipment costs, hardware and/or software costs, and other additional costs (specifying the particular area of costs). Respondents were asked to provide an annual total estimate of costs on a per ton or per head basis pertaining to how the plant will respond to and comply with COOL regulations.

The distribution of domestic and foreign beef products was determined by whether or not an individual plant handles domestic beef, foreign beef, or both. Respondents were asked to indicate whether they would handle country-of-origin beef products other than products born, raised and slaughtered in the United States and if so, under what conditions and which particular plants would handle and/or process domestic beef, foreign beef or a combination of both.

The plant's slaughtering and processing practices were estimated by asking the respondents a three-part question pertaining to the categories of cattle (fed cattle, cull/cutter/canner cattle, and dairy cattle) that are slaughtered and/or processed by the company, the slaughter and/or processing for each individual plant, and the percent that each category of cattle accounts for of the plant's yearly process total.

Similar to retailers, verification, auditing, and documentation questions were created to ascertain the appropriate documents and information that meat packers and processors would require from their suppliers (i.e. cattle feedlots) for compliance with mandatory COOL regulations. The plant's record keeping practices and costs were measured by asking the respondents to provide an estimate of the percent of the total record keeping time for the company that would be spent on COOL and what the total annual cost would amount to for incorporating the additional record keeping time.

The items on the survey designed to measure the market distribution of beef products consisted of two questions pertaining to the percent of the plant's total annual production that is supplied to hotel restaurant institutes (HRI), retail grocery outlets and other markets and costs associated with segregating specific plants, production runs, or production lines for the various marketing distribution channels.

Finally, case-ready productivity changes for beef products were measured by asking the respondents a two-part question concerning the plant's current production of case-ready products (as a percent of the plant's total production line of products) and the changes (increases or decreases) in the percent of case-ready products handled and

supplied as a result of the implementation of mandatory country-of-origin labeling regulations.

The questionnaire instrument or survey was revised and reviewed repeatedly after the preliminary draft was developed. The reviews were made by committee members and several graduate faculty. Reviewers made comments and suggestions critiquing the clarity of sentences and direction, readability of items, arrangement of the questions, comprehensiveness of answer categories for the closed-ended questions, format of questionnaire, fonts and type of questionnaire, and research bias.

The final form of the instrument was entitled *Questionnaire Survey for Packers and Processors in the United States pertaining to the Estimated Costs of Implementing and Complying with the Mandatory Country-of-Origin Labeling Requirements* (Appendix C). The final instrument was printed front (horizontally) on nine sheets of 8½ x 11 inch white paper. The questionnaire survey included six sections of ten total questions.

Cattle Feedlots (Feedyards)

Questions for cattle feedlots were developed to test or estimate the increases in total marginal costs of production resulting from the implementation of mandatory COOL regulations and the effects of mandatory COOL on company production decisions and practices. The questionnaire included two areas of measures: capital and incremental expenditures (costs) and the distribution and segregation of domestic and foreign cattle.

Each question on the survey instrument was developed from previous research of the industry's cost structure and production/operational practices. The questions designed to estimate the capital and incremental costs consisted of seven separate company fixed and variable costs: labor costs, animal identification (ear tags, electronic chips, etc.) costs, management costs, additional pen space costs, scanning hardware/software costs, verification, documentation and auditing costs, and other costs (specifying the particular area of costs). Respondents were asked to provide an annual total fiscal year estimate of the costs (on a per head basis) pertaining to how the company will respond to mandatory country-of-origin labeling regulations.

The distribution (or segregation) of domestic and foreign cattle was measured in terms of whether or not the company's feedlots were going to handle domestic cattle, foreign cattle or a combination of both. Respondents were asked if the company feedlots would handle country-of-origin cattle other than born in the United States and if so under what conditions and which individual feedlots would handle domestic cattle, foreign cattle or a combination of both.

The final form of the instrument was entitled *Questionnaire for Survey with Cattle Feeders in the United States pertaining to the Estimated Costs of Implementing and Complying with the Mandatory Country-of-Origin Labeling Requirements* (Appendix D). The final instrument was printed front (horizontally) on four sheets of 8½ x 11 inch white paper. The questionnaire survey included two sections of three total questions summarizing the two areas of measures.

Cattle Backgrounding Yards and Stockers

The questions were designed to estimate increases in total marginal costs resulting from the implementation of mandatory COOL and the effects of mandatory COOL on company production decisions and practices. The questionnaire survey included two areas of measures: capital and incremental costs and distribution of domestic and foreign cattle.

The questions on the survey instrument were developed from previous research of the industry's cost structure and production and operational practices. The questions designed to measure or estimate the capital and incremental expenditures (costs) consisted of six separate company fixed and variable costs: labor costs, animal identification (ear tags, electronic chips, etc.) costs, management costs, verification, documentation and auditing costs, hardware and/or software costs, and other costs (specifying the particular area of costs). Respondents were asked to provide an annual total fiscal year estimate (on a per head basis) of the costs pertaining to how the company will respond to mandatory country-of-origin labeling regulations.

The productivity distribution of domestic and foreign cattle was measured in terms of whether or not the company would handle domestic cattle, foreign cattle or a combination of both. Respondents were asked if their company would handle country-of-origin cattle other than born in the United States and if so under what conditions would the company handle domestic cattle, foreign cattle or a combination of both.

The final form of the survey instrument was entitled *Questionnaire for Survey with Cattle Backgrounding Yards in Texas pertaining to the Estimated Costs of*

Implementing and Complying with the Mandatory Country-of-Origin Labeling Requirements (Appendix E). The final form of the instruments was printed front (horizontally) on four sheets of 8½ x 11 inch white paper. The questionnaire survey included two sections of three total questions summarizing the two areas of measures.

Procedures in Data Collection

Retail Chain Stores and Distributors/Meatpackers and Processors

The research project began with the company names and mailing addresses of the sampling frame being obtained from a leading industry magazine's listing of the top thirty U.S. meat packers and a leading publication's listing of the top seventy-five retail chain stores and distributors. Following the collection of the company names and mailing addresses, personnel contacts were then obtained from the personnel department and other departments of the employer.

The data were collected December of 2003 through August of 2004 using a mail survey technique. To increase the return rate, a modified Total Design Method (Dillman, 1978) was used. To maintain confidentiality, the survey instrument did not have any identification number and used weighted average estimates and percentages. A cover letter (Appendix F) that introduced the research study, clarified the purpose of the study, identified the confidentiality nature of the study, and addresses the need of participation was printed on white 8½ x 11 Texas A&M Cooperative Extension Service business letter-head paper. The cover letter and the survey instrument were placed in Texas A&M Cooperative Extension Service addressed 9 x 12 manilla envelopes. One stamped return envelope was also stuffed (included) in the envelope. A total of 30 retail

chain store and distributor instrument packets and 27 meat packer and processor instrument packets were mailed on the 25th of November, 2003.

Follow-up phone calls were made from December of 2003 through January of 2004 to the respondents of the survey thanking them for their participation in the study and to non-respondent retail chain stores and distributors and meat packers and processors checking on the status of the questionnaire survey and their participation in the study.

Due to unforeseen problems and poor response rates, a secondary letter (Appendix G) was mailed out to the non-respondents on the 12th of January, 2004. The letter informed the non-respondents the study was ongoing and their participation was greatly needed for accurate results. Furthermore, the letter stipulated (explained) a second copy of the cover letter and questionnaire survey would be mailed to them within the next week.

Approximately one week after the letter was mailed, the 19th of January, 2004, a follow-up cover letter and questionnaire survey was mailed to the non-respondent retail chain stores/distributors and meat packers/processors. Follow-up mailings are regarded as an effective way for increasing return rates in mail surveys (Babbie, 1990). To avoid duplicate mailings to the respondents, their names were deleted from the initial mailing list. The names of companies who indicated they were unable to participate in the study were also deleted from the mailing list. The cover letter also identified the confidentiality of the study and addressed the need for participation. It was printed on white 8½ x 11 inch Texas A&M Cooperative Extension Service business letter-head

paper. The follow-up cover letter and the questionnaire survey were placed in 9 x 12 manila envelopes with a stamped return envelope. A total of 27 retail chain stores/distributor instrument packets and a total of 22 beef packers/processors instrument packets were mailed on the 19th of January, 2004. Tables 3-1 and 3-2 show the dates and procedures for collecting the data for Retail Chain Stores and Distributors and Meat Packers and Processors.

Of the original 30 retail chain stores and distributors names and addresses and 27 meat packers and processors names and addresses in the mailing list, 3 (10.00 percent) of the retail instrument packets and 1 (3.70 percent) of the meat packers/processor instrument packets were returned as undeliverable because of incorrect mailing addresses. Generally, omitting all those questionnaires that could not be delivered from the sample is accepted (Babbie, 1990). Thus, the initial sample size was reduced to 27 retail chain stores and distributors and 26 meat packers and processors. A total of 3 retail questionnaires and 8 meat packer/processor questionnaires were returned by the cut off date. Therefore, the return rate was 11.1 percent (3/27) for the retail chain stores and distributors and 30.8 percent (8/26) for the meat packers and processors. Table 3-1 shows the daily return rate and cumulative return rate for Retail Chain Stores and Distributors and Table 3-2 shows the daily return rate and cumulative return rate for Meat Packers and Processors.

Cattle Feedlots and Backgrounding Yards

Upon completion of the research of retail chain stores/distributors and beefpackers/processors, the company names, mailing addresses and phone numbers were

Table 3-1. Daily and Cumulative Return Rates and Data Collection Procedures for Retail Chain Stores and Distributors

Date Received		Number Received	Daily %	Cumulative %
11/25/03	First mailing			
11/26/03		0	0%	0%
11/27/03		0	0%	0%
11/28/03		0	0%	0%
11/29/03		0	0%	0%
11/30/03		0	0%	0%
12/1/03		0	0%	0%
12/2/03		0	0%	0%
12/3/03		0	0%	0%
12/4/03		0	0%	0%
12/5/03		0	0%	0%
12/6/03		0	0%	0%
12/7/03		0	0%	0%
12/8/03		0	0%	0%
12/9/03		0	0%	0%
12/10/03	Follow-Up Calls	0	0%	0%
12/11/03	Follow-Up Calls	1	3.70%	3.70%
12/12/03	Follow-Up Calls	0	0%	3.70%
12/13/03		0	0%	3.70%
12/14/03		1	3.45%	7.40%
12/15/03	Christmas Break	0	0%	7.40%
1/3/04		0	0%	7.40%
1/4/04		0	0%	7.40%
1/5/04	Follow-Up Calls	0	0%	7.40%
1/6/04	Follow-Up Calls	0	0%	7.40%
1/7/04	Follow-Up Calls	0	0%	7.40%
1/8/04	Follow-Up Calls	0	0%	7.40%
1/9/04	Follow-Up Calls	0	0%	7.40%
1/10/04		0	0%	7.40%
1/11/04		0	0%	7.40%
1/12/04	Explanatory Letter	0	0%	7.40%
1/13/04		0	0%	7.40%

Table 3-1. (continued)

Date Received		Number Received	Daily %	Cumulative %
1/14/04		0	0%	7.40%
1/15/04		0	0%	7.40%
1/16/04		0	0%	7.40%
1/17/04		0	0%	7.40%
1/18/04		0	0%	7.40%
1/19/04	Follow-up Survey	0	0%	7.40%
1/20/04		0	0%	7.40%
1/21/04		0	0%	7.40%
1/22/04		0	0%	7.40%
1/23/04		0	0%	7.40%
1/24/04		0	0%	7.40%
1/25/04		0	0%	7.40%
1/26/04		0	0%	7.40%
1/27/04		0	0%	7.40%
1/28/04		0	0%	7.40%
1/29/04		0	0%	7.40%
1/30/04		0	0%	7.40%
1/31/04		0	0%	7.40%
2/1/04		0	0%	7.40%
2/2/04		0	0%	7.40%
2/3/04		0	0%	7.40%
2/4/04		0	0%	7.40%
2/5/04	Follow-Up Calls	0	0%	7.40%
2/6/04	Follow-Up Calls	0	0%	7.40%
2/7/04		1	3.70%	11.11%
2/8/04		0	0%	11.11%
2/9/04	Follow-Up Calls	0	0%	11.11%
2/10/04	Follow-Up Calls	0	0%	11.11%
2/11/04	Follow-Up Calls	0	0%	11.11%
2/12/04	Follow-Up Calls	0	0%	11.11%
2/13/04	Follow-Up Calls	0	0%	11.11%
2/14/04		0	0%	11.11%
2/15/04		0	0%	11.11%
2/16/04	Follow-Up Calls	0	0%	11.11%
2/17/04	Follow-Up Calls	0	0%	11.11%

Table 3-1. (continued)

Date Received		Number Received	Daily %	Cumulative %
2/18/04	Follow-Up Calls	0	0%	11.11%
2/19/04		0	0%	11.11%
2/20/04		0	0%	11.11%
2/21/04		0	0%	11.11%
2/22/04		0	0%	11.11%
2/23/04		0	0%	11.11%
2/24/04		0	0%	11.11%
2/25/04		0	0%	11.11%
2/26/04		0	0%	11.11%
2/27/04	Follow-Up Calls	0	0%	11.11%
2/28/04		0	0%	11.11%
2/29/04		0	0%	11.11%
3/1/04	Follow-Up Calls	0	0%	11.11%
3/2/04	Follow-Up Calls	0	0%	11.11%
3/3/04	Follow-Up Calls	0	0%	11.11%
3/4/04	Follow-Up Calls	0	0%	11.11%
3/5/04	Follow-Up Calls	0	0%	11.11%
3/6/04		0	0%	11.11%
3/7/04		0	0%	11.11%
3/8/04		0	0%	11.11%
3/9/04		0	0%	11.11%
3/10/04		0	0%	11.11%
3/11/04		0	0%	11.11%
3/12/04		0	0%	11.11%
3/13/04		0	0%	11.11%
3/14/04		0	0%	11.11%
3/15/04	Follow-Up Calls	0	0%	11.11%
3/16/04	Follow-Up Calls	0	0%	11.11%
3/17/04	Follow-Up Calls	0	0%	11.11%
3/18/04	Follow-Up Calls	0	0%	11.11%
3/19/04	Follow-Up Calls	0	0%	11.11%
3/20/04		0	0%	11.11%
3/21/04		0	0%	11.11%
3/22/04	Follow-Up Calls	0	0%	11.11%
3/23/04	Follow-Up Calls	0	0%	11.11%

Table 3-1. (continued)

Date Received		Number Received	Daily %	Cumulative %
3/24/04	Follow-Up Calls	0	0%	11.11%
3/25/04	Follow-Up Calls	0	0%	11.11%
3/26/04		0	0%	11.11%
3/27/04		0	0%	11.11%
3/28/04		0	0%	11.11%
3/29/04		0	0%	11.11%
3/30/04		0	0%	11.11%
3/31/04		0	0%	11.11%
4/1/04		0	0%	11.11%
4/2/04		0	0%	11.11%
4/3/04		0	0%	11.11%
4/4/04		0	0%	11.11%
4/5/04		0	0%	11.11%
4/6/04		0	0%	11.11%
4/7/04		0	0%	11.11%
4/8/04		0	0%	11.11%
4/9/04		0	0%	11.11%
4/10/04		0	0%	11.11%
4/11/04		0	0%	11.11%
4/12/04	Follow-Up Calls	0	0%	11.11%
4/13/04	Follow-Up Calls	0	0%	11.11%
4/14/04	Follow-Up Calls	0	0%	11.11%
4/15/04	Follow-Up Calls	0	0%	11.11%
4/16/04	Follow-Up Calls	0	0%	11.11%
4/17/04		0	0%	11.11%
4/18/04		0	0%	11.11%
4/19/04	Follow-Up Calls	0	0%	11.11%
4/20/04	Follow-Up Calls	0	0%	11.11%
4/21/04	Follow-Up Calls	0	0%	11.11%
4/22/04	Follow-Up Calls	0	0%	11.11%
4/23/04	Follow-Up Calls	0	0%	11.11%
4/24/04		0	0%	11.11%
4/25/04		0	0%	11.11%
4/26/04	Follow-Up Calls	0	0%	11.11%
4/27/04	Follow-Up Calls	0	0%	11.11%

Table 3-1. (continued)

Date Received		Number Received	Daily %	Cumulative %
4/28/04	Follow-Up Calls	0	0%	11.11%
4/29/04	Follow-Up Calls	0	0%	11.11%
4/30/04	Follow-Up Calls	0	0%	11.11%
5/1/04		0	0%	11.11%
5/2/04		0	0%	11.11%
5/3/04		0	0%	11.11%
5/4/04		0	0%	11.11%
5/5/04		0	0%	11.11%
5/6/04		0	0%	11.11%
5/7/04		0	0%	11.11%
5/8/04		0	0%	11.11%
5/9/04		0	0%	11.11%
5/10/04		0	0%	11.11%
5/11/04		0	0%	11.11%
5/12/04		0	0%	11.11%
5/13/04	Follow-Up Calls	0	0%	11.11%
5/14/04	Follow-Up Calls	0	0%	11.11%
5/15/04		0	0%	11.11%
5/16/04		0	0%	11.11%
5/17/04	Follow-Up Calls	0	0%	11.11%
5/18/04	Follow-Up Calls	0	0%	11.11%
5/19/04	Follow-Up Calls	0	0%	11.11%
5/20/04	Follow-Up Calls	0	0%	11.11%
5/21/04	Follow-Up Calls	0	0%	11.11%
5/22/04		0	0%	11.11%
5/23/04		0	0%	11.11%
5/24/04		0	0%	11.11%
5/25/04		0	0%	11.11%
5/26/04		0	0%	11.11%
5/27/04		0	0%	11.11%
5/28/04		0	0%	11.11%
5/29/04		0	0%	11.11%
5/30/04		0	0%	11.11%
5/31/04		0	0%	11.11%
6/1/04	Follow-Up Calls	0	0%	11.11%

Table 3-1. (continued)

Date Received		Number Received	Daily %	Cumulative %
6/2/04	Follow-Up Calls	0	0%	11.11%
6/3/04	Follow-Up Calls	0	0%	11.11%
6/4/04	Follow-Up Calls	0	0%	11.11%
6/5/04		0	0%	11.11%
6/6/04		0	0%	11.11%
6/7/04		0	0%	11.11%
6/8/04		0	0%	11.11%
6/9/04		0	0%	11.11%
6/10/04		0	0%	11.11%
6/11/04		0	0%	11.11%
6/12/04		0	0%	11.11%
6/13/04		0	0%	11.11%
6/14/04	Follow-Up Calls	0	0%	11.11%
6/15/04	Follow-Up Calls	0	0%	11.11%
6/16/04	Follow-Up Calls	0	0%	11.11%
6/17/04		0	0%	11.11%
6/18/04		0	0%	11.11%
6/19/04		0	0%	11.11%
6/20/04		0	0%	11.11%
6/21/04		0	0%	11.11%
6/22/04		0	0%	11.11%
6/23/04		0	0%	11.11%
6/24/04		0	0%	11.11%
6/25/04		0	0%	11.11%
6/26/04		0	0%	11.11%
6/27/04		0	0%	11.11%
6/28/04	Follow-Up Calls	0	0%	11.11%
6/29/04	Follow-Up Calls	0	0%	11.11%
6/30/04	Follow-Up Calls	0	0%	11.11%
7/1/04	Follow-Up Calls	0	0%	11.11%
7/2/04	Follow-Up Calls	0	0%	11.11%
7/3/04		0	0%	11.11%
7/4/04		0	0%	11.11%
7/5/04		0	0%	11.11%
7/6/04		0	0%	11.11%

Table 3-1. (continued)

Date Received	Number Received	Daily %	Cumulative %	
7/7/04	0	0%	11.11%	
7/8/04	0	0%	11.11%	
7/9/04	0	0%	11.11%	
7/10/04	0	0%	11.11%	
7/11/04	0	0%	11.11%	
7/12/04	0	0%	11.11%	
7/13/04	0	0%	11.11%	
7/14/04	0	0%	11.11%	
7/15/04	Follow-Up Calls	0	0%	11.11%
7/16/04	Follow-Up Calls	0	0%	11.11%
7/17/04		0	0%	11.11%
7/18/04		0	0%	11.11%
7/19/04	Follow-Up Calls	0	0%	11.11%
7/20/04	Follow-Up Calls	0	0%	11.11%
7/21/04	Follow-Up Calls	0	0%	11.11%
7/22/04		0	0%	11.11%
7/23/04		0	0%	11.11%
7/24/04		0	0%	11.11%
7/25/04		0	0%	11.11%
7/26/04		0	0%	11.11%
7/27/04		0	0%	11.11%
7/28/04		0	0%	11.11%
7/29/04		0	0%	11.11%
7/30/04		0	0%	11.11%
7/31/04		0	0%	11.11%
8/1/04		0	0%	11.11%
8/2/04		0	0%	11.11%
8/3/04		0	0%	11.11%
8/4/04		0	0%	11.11%
8/5/04		0	0%	11.11%
8/6/04		0	0%	11.11%
8/7/04		0	0%	11.11%
8/8/04		0	0%	11.11%
8/9/04		0	0%	11.11%
8/10/04		0	0%	11.11%

Table 3-1. (continued)

Date Received	Number Received	Daily %	Cumulative %
8/11/04	0	0%	11.11%
8/12/04	0	0%	11.11%
8/13/04	0	0%	11.11%
8/14/04	0	0%	11.11%
8/15/04	0	0%	11.11%
8/16/04	0	0%	11.11%
8/17/04	0	0%	11.11%
8/18/04	0	0%	11.11%
8/19/04	Cut-Off Date	0	11.11%

Table 3-2. Daily and Cumulative Return Rates and Data Collection Procedures for Procedures for Meat Packers and Processors

Date Received		Number Received	Daily %	Cumulative %
11/25/03	First mailing			
11/26/03		0	0%	0%
11/27/03		0	0%	0%
11/28/03		0	0%	0%
11/29/03		0	0%	0%
11/30/03		0	0%	0%
12/1/03		0	0%	0%
12/2/03		0	0%	0%
12/3/03		0	0%	0%
12/4/03		0	0%	0%
12/5/03		1	3.85%	3.85%
12/6/03		1	3.85%	7.70%
12/7/03		0	0%	7.70%
12/8/03		1	3.85%	11.55%
12/9/03		0	0%	11.55%
12/10/03	Follow-Up Calls	0	0%	11.55%
12/11/03	Follow-Up Calls	0	0%	11.55%
12/12/03	Follow-Up Calls	1	3.85%	15.40%
12/13/03		0	0%	15.40%
12/14/03		0	0%	15.40%
12/15/03	Christmas Break	0	0%	15.40%
1/3/04		0	0%	15.40%
1/4/04		0	0%	15.40%
1/5/04	Follow-Up Calls	0	0%	15.40%
1/6/04	Follow-Up Calls	0	0%	15.40%
1/7/04	Follow-Up Calls	0	0%	15.40%
1/8/04	Follow-Up Calls	0	0%	15.40%
1/9/04	Follow-Up Calls	0	0%	15.40%
1/10/04		0	0%	15.40%
1/11/04		0	0%	15.40%
1/12/04	Explanatory Letter	0	0%	15.40%

Table 3-2. (continued)

Date Received		Number Received	Daily %	Cumulative %
1/13/04		0	0%	15.40%
1/14/04		0	0%	15.40%
1/15/04		0	0%	15.40%
1/16/04		0	0%	15.40%
1/17/04		0	0%	15.40%
1/18/04		0	0%	15.40%
1/19/04	Follow-Up Survey	0	0%	15.40%
1/20/04		0	0%	15.40%
1/21/04		0	0%	15.40%
1/22/04		0	0%	15.40%
1/23/04		0	0%	15.40%
1/24/04		0	0%	15.40%
1/25/04		0	0%	15.40%
1/26/04		0	0%	15.40%
1/27/04		0	0%	15.40%
1/28/04		0	0%	15.40%
1/29/04		0	0%	15.40%
1/30/04		0	0%	15.40%
1/31/04		0	0%	15.40%
2/1/04		0	0%	15.40%
2/2/04		1	3.85%	19.25%
2/3/04		0	0%	19.25%
2/4/04		1	3.85%	23.10%
2/5/04	Follow-Up Calls	1	3.85%	26.95%
2/6/04	Follow-Up Calls	0	0%	26.95%
2/7/04		0	0%	26.95%
2/8/04		1	3.85%	30.80%
2/9/04	Follow-Up Calls	0	0%	30.80%
2/10/04	Follow-Up Calls	0	0%	30.80%
2/11/04	Follow-Up Calls	0	0%	30.80%
2/12/04	Follow-Up Calls	0	0%	30.80%
2/13/04	Follow-Up Calls	0	0%	30.80%
2/14/04		0	0%	30.80%

Table 3-2. (continued)

Date Received		Number Received	Daily %	Cumulative %
2/15/04		0	0%	30.80%
2/16/04	Follow-Up Calls	0	0%	30.80%
2/17/04	Follow-Up Calls	0	0%	30.80%
2/18/04	Follow-Up Calls	0	0%	30.80%
2/19/04		0	0%	30.80%
2/20/04		0	0%	30.80%
2/21/04		0	0%	30.80%
2/22/04		0	0%	30.80%
2/23/04		0	0%	30.80%
2/24/04		0	0%	30.80%
2/25/04		0	0%	30.80%
2/26/04		0	0%	30.80%
2/27/04		0	0%	30.80%
2/28/04		0	0%	30.80%
2/29/04		0	0%	30.80%
3/1/04	Follow-Up Calls	0	0%	30.80%
3/2/04	Follow-Up Calls	0	0%	30.80%
3/3/04	Follow-Up Calls	0	0%	30.80%
3/4/04	Follow-Up Calls	0	0%	30.80%
3/5/04	Follow-Up Calls	0	0%	30.80%
3/6/04		0	0%	30.80%
3/7/04		0	0%	30.80%
3/8/04	Follow-Up Calls	0	0%	30.80%
3/9/04	Follow-Up Calls	0	0%	30.80%
3/10/04	Follow-Up Calls	0	0%	30.80%
3/11/04		0	0%	30.80%
3/12/04		0	0%	30.80%
3/13/04		0	0%	30.80%
3/14/04		0	0%	30.80%
3/15/04	Follow-Up Calls	0	0%	30.80%
3/16/04	Follow-Up Calls	0	0%	30.80%
3/17/04	Follow-Up Calls	0	0%	30.80%
3/18/04	Follow-Up Calls	0	0%	30.80%

Table 3-2. (continued)

Date Received		Number Received	Daily %	Cumulative %
3/19/04	Follow-Up Calls	0	0%	30.80%
3/20/04		0	0%	30.80%
3/21/04		0	0%	30.80%
3/22/04	Follow-Up Calls	0	0%	30.80%
3/23/04	Follow-Up Calls	0	0%	30.80%
3/24/04	Follow-Up Calls	0	0%	30.80%
3/25/04	Follow-Up Calls	0	0%	30.80%
3/26/04	Follow-Up Calls	0	0%	30.80%
3/27/04		0	0%	30.80%
3/28/04		0	0%	30.80%
3/29/04		0	0%	30.80%
3/30/04		0	0%	30.80%
3/31/04		0	0%	30.80%
4/1/04		0	0%	30.80%
4/2/04		0	0%	30.80%
4/3/04		0	0%	30.80%
4/4/04		0	0%	30.80%
4/5/04		0	0%	30.80%
4/6/04		0	0%	30.80%
4/7/04		0	0%	30.80%
4/8/04		0	0%	30.80%
4/9/04		0	0%	30.80%
4/10/04		0	0%	30.80%
4/11/04		0	0%	30.80%
4/12/04	Follow-Up Calls	0	0%	30.80%
4/13/04	Follow-Up Calls	0	0%	30.80%
4/14/04	Follow-Up Calls	0	0%	30.80%
4/15/04	Follow-Up Calls	0	0%	30.80%
4/16/04	Follow-Up Calls	0	0%	30.80%
4/17/04		0	0%	30.80%
4/18/04		0	0%	30.80%
4/19/04	Follow-Up Calls	0	0%	30.80%
4/20/04	Follow-Up Calls	0	0%	30.80%

Table 3-2. (continued)

Date Received		Number Received	Daily %	Cumulative %
4/21/04	Follow-Up Calls	0	0%	30.80%
4/22/04	Follow-Up Calls	0	0%	30.80%
4/23/04	Follow-Up Calls	0	0%	30.80%
4/24/04		0	0%	30.80%
4/25/04		0	0%	30.80%
4/26/04	Follow-Up Calls	0	0%	30.80%
4/27/04	Follow-Up Calls	0	0%	30.80%
4/28/04	Follow-Up Calls	0	0%	30.80%
4/29/04	Follow-Up Calls	0	0%	30.80%
4/30/04	Follow-Up Calls	0	0%	30.80%
5/1/04		0	0%	30.80%
5/2/04		0	0%	30.80%
5/3/04		0	0%	30.80%
5/4/04		0	0%	30.80%
5/5/04		0	0%	30.80%
5/6/04		0	0%	30.80%
5/7/04		0	0%	30.80%
5/8/04		0	0%	30.80%
5/9/04		0	0%	30.80%
5/10/04		0	0%	30.80%
5/11/04		0	0%	30.80%
5/12/04		0	0%	30.80%
5/13/04	Follow-Up Calls	0	0%	30.80%
5/14/04	Follow-Up Calls	0	0%	30.80%
5/15/04		0	0%	30.80%
5/16/04		0	0%	30.80%
5/17/04	Follow-Up Calls	0	0%	30.80%
5/18/04	Follow-Up Calls	0	0%	30.80%
5/19/04	Follow-Up Calls	0	0%	30.80%
5/20/04	Follow-Up Calls	0	0%	30.80%
5/21/04	Follow-Up Calls	0	0%	30.80%
5/22/04		0	0%	30.80%
5/23/04		0	0%	30.80%

Table 3-2. (continued)

Date Received		Number Received	Daily %	Cumulative %
5/24/04		0	0%	30.80%
5/25/04		0	0%	30.80%
5/26/04		0	0%	30.80%
5/27/04		0	0%	30.80%
5/28/04		0	0%	30.80%
5/29/04		0	0%	30.80%
5/30/04		0	0%	30.80%
5/31/04		0	0%	30.80%
6/1/04	Follow-Up Calls	0	0%	30.80%
6/2/04	Follow-Up Calls	0	0%	30.80%
6/3/04	Follow-Up Calls	0	0%	30.80%
6/4/04	Follow-Up Calls	0	0%	30.80%
6/5/04		0	0%	30.80%
6/6/04		0	0%	30.80%
6/7/04	Follow-Up Calls	0	0%	30.80%
6/8/04	Follow-Up Calls	0	0%	30.80%
6/9/04	Follow-Up Calls	0	0%	30.80%
6/10/04	Follow-Up Calls	0	0%	30.80%
6/11/04	Follow-Up Calls	0	0%	30.80%
6/12/04		0	0%	30.80%
6/13/04		0	0%	30.80%
6/14/04	Follow-Up Calls	0	0%	30.80%
6/15/04	Follow-Up Calls	0	0%	30.80%
6/16/04		0	0%	30.80%
6/17/04		0	0%	30.80%
6/18/04		0	0%	30.80%
6/19/04		0	0%	30.80%
6/20/04		0	0%	30.80%
6/21/04		0	0%	30.80%
6/22/04		0	0%	30.80%
6/23/04		0	0%	30.80%
6/24/04		0	0%	30.80%
6/25/04		0	0%	30.80%

Table 3-2. (continued)

Date Received		Number Received	Daily %	Cumulative %
6/26/04		0	0%	30.80%
6/27/04		0	0%	30.80%
6/28/04	Follow-Up Calls	0	0%	30.80%
6/29/04	Follow-Up Calls	0	0%	30.80%
6/30/04	Follow-Up Calls	0	0%	30.80%
7/1/04	Follow-Up Calls	0	0%	30.80%
7/2/04	Follow-Up Calls	0	0%	30.80%
7/3/04		0	0%	30.80%
7/4/04		0	0%	30.80%
7/5/04		0	0%	30.80%
7/6/04		0	0%	30.80%
7/7/04		0	0%	30.80%
7/8/04		0	0%	30.80%
7/9/04		0	0%	30.80%
7/10/04		0	0%	30.80%
7/11/04		0	0%	30.80%
7/12/04		0	0%	30.80%
7/13/04		0	0%	30.80%
7/14/04		0	0%	30.80%
7/15/04	Follow-Up Calls	0	0%	30.80%
7/16/04	Follow-Up Calls	0	0%	30.80%
7/17/04		0	0%	30.80%
7/18/04		0	0%	30.80%
7/19/04	Follow-Up Calls	0	0%	30.80%
7/20/04	Follow-Up Calls	0	0%	30.80%
7/21/04	Follow-Up Calls	0	0%	30.80%
7/22/04	Follow-Up Calls	0	0%	30.80%
7/23/04	Follow-Up Calls	0	0%	30.80%
7/24/04		0	0%	30.80%
7/25/04		0	0%	30.80%
7/26/04		0	0%	30.80%
7/27/04		0	0%	30.80%
7/28/04		0	0%	30.80%

Table 3-2. (continued)

Date Received	Number Received	Daily %	Cumulative %
7/29/04	0	0%	30.80%
7/30/04	0	0%	30.80%
7/31/04	0	0%	30.80%
8/1/04	0	0%	30.80%
8/2/04	0	0%	30.80%
8/3/04	0	0%	30.80%
8/4/04	0	0%	30.80%
8/5/04	0	0%	30.80%
8/6/04	0	0%	30.80%
8/7/04	0	0%	30.80%
8/8/04	Follow-Up Calls	0	30.80%
8/9/04	Follow-Up Calls	0	30.80%
8/10/04		0	30.80%
8/11/04		0	30.80%
8/12/04	Follow-Up Calls	0	30.80%
8/13/04	Follow-Up Calls	0	30.80%
8/14/04	Follow-Up Calls	0	30.80%
8/15/04		0	30.80%
8/16/04		0	30.80%
8/17/04		0	30.80%
8/18/04		0	30.80%
8/19/04	Cut-off Date	0	30.80%

obtained from a leading industry magazine's listing of the top 30 U.S. cattle feeders and a listing of the Texas based cattle backgrounding yards and stockers. Following the collection of the chosen companies and phone numbers (contact information), personnel names were then obtained from the various departments of the employer. The data were collected April through June of 2004 using a phone survey technique. To maintain confidentiality, the survey instrument did not have any identification number and used weighted average estimates. A total of 20 U.S. cattle feedlots and 14 cattle backgrounding yards and stockers were phoned and asked the questions contained on the survey instrument. Tables 3-3 and 3-4 show the dates and procedures for collecting the data for the cattle feedlots and cattle backgrounding yards or stocking operations.

Of the original 20 U.S. cattle feedlots and 14 Texas based cattle backgrounding yards on the phone survey list, 2 (10 percent) of the U.S. cattle feedlots and 2 (14.3 percent) of the Texas based cattle backgrounding yards were unused because of incorrect phone numbers. Generally, omitting all of those questionnaires that could not be delivered from the sample is accepted (Bobbie, 1990). Thus, the initial sample size for the study was reduced to 18 U.S. Cattle feedlots and 12 Texas Cattle backgrounding yards. A total of 9 Cattle feedlot questionnaires and 6 Cattle backgrounding yards were answered by the cut off date. Therefore, a usable return rate was 50 percent (9/18) for the U.S. cattle feedlots and 50 percent (6/12) for the Texas cow-calf operators, cattle backgrounding yards and stockers. Table 3-3 shows the daily return rate and cumulative return rate for cattle feedlots and Table 3-4 shows the daily return rate and cumulative return rate for cattle backgrounding yards.

Table 3-3. Daily and Cumulative Return Rates and Data Collection Procedures for Cattle Feedlots

Date Received		Number Received	Daily %	Cumulative %
3/22/04	First phone call	2	11.11%	11.11%
3/23/04	Follow-Up Calls	1	5.56%	16.67%
3/24/04	Follow-Up Calls	0	0%	16.67%
3/25/04	Follow-Up Calls	2	11.11%	27.78%
3/26/04	Follow-Up Calls	0	0%	27.78%
3/27/04		0	0%	27.78%
3/28/04		1	5.56%	33.34%
3/29/04	Follow-Up Calls	2	11.11%	44.45%
3/30/04	Follow-Up Calls	0	0%	44.45%
3/31/04	Follow-Up Calls	0	0%	44.45%
4/1/04	Follow-Up Calls	0	0%	44.45%
4/2/04	Follow-Up Calls	0	0%	44.45%
4/3/04		1	5.55%	50.00%
4/4/04		0	0%	50.00%
4/5/04	Follow-Up Calls	0	0%	50.00%
4/6/04	Follow-Up Calls	0	0%	50.00%
4/7/04	Follow-Up Calls	0	0%	50.00%
4/8/04	Follow-Up Calls	0	0%	50.00%
4/9/04	Follow-Up Calls	0	0%	50.00%
4/10/04		0	0%	50.00%
4/11/04		0	0%	50.00%
4/12/04		0	0%	50.00%
4/13/04		0	0%	50.00%
4/14/04		0	0%	50.00%
4/15/04		0	0%	50.00%
4/16/04		0	0%	50.00%
4/17/04		0	0%	50.00%
4/18/04		0	0%	50.00%
4/19/04	Follow-Up Calls	0	0%	50.00%
4/20/04	Follow-Up Calls	0	0%	50.00%
4/21/04	Follow-Up Calls	0	0%	50.00%

Table 3-3. (continued)

Date Received		Number Received	Daily %	Cumulative %
4/22/04	Follow-Up Calls	0	0%	50.00%
4/23/04	Follow-Up Calls	0	0%	50.00%
4/24/04		0	0%	50.00%
4/25/04		0	0%	50.00%
4/26/04		0	0%	50.00%
4/27/04		0	0%	50.00%
4/28/04	Follow-Up Calls	0	0%	50.00%
4/29/04	Follow-Up Calls	0	0%	50.00%
4/30/04	Follow-Up Calls	0	0%	50.00%
5/1/04		0	0%	50.00%
5/2/04		0	0%	50.00%
5/3/04		0	0%	50.00%
5/4/04	Cut-off Date	0	0%	50.00%

Table 3-4. Daily and Cumulative Return Rates and Data Collection Procedures for Cattle Backgrounding Yards and Stockers

Date Received		Number Received	Daily %	Cumulative %
3/22/04	First phone call	2	16.67%	16.67%
3/23/04	Follow-Up Calls	0	0%	16.67%
3/24/04	Follow-Up Calls	1	8.33%	25.00%
3/25/04	Follow-Up Calls	0	0%	25.00%
3/26/04	Follow-Up Calls	2	16.67%	41.67%
3/27/04		0	0%	41.67%
3/28/04		0	0%	41.67%
3/29/04	Follow-Up Calls	1	8.33%	50.00%
3/30/04	Follow-Up Calls	0	0%	50.00%
3/31/04	Follow-Up Calls	0	0%	50.00%
4/1/04	Follow-Up Calls	0	0%	50.00%
4/2/04	Follow-Up Calls	0	0%	50.00%
4/3/04		0	0%	50.00%
4/4/04		0	0%	50.00%
4/5/04	Follow-Up Calls	0	0%	50.00%
4/6/04	Follow-Up Calls	0	0%	50.00%
4/7/04	Follow-Up Calls	0	0%	50.00%
4/8/04	Follow-Up Calls	0	0%	50.00%
4/9/04	Follow-Up Calls	0	0%	50.00%
4/10/04		0	0%	50.00%
4/11/04		0	0%	50.00%
4/12/04		0	0%	50.00%
4/13/04		0	0%	50.00%
4/14/04		0	0%	50.00%
4/15/04		0	0%	50.00%
4/16/04		0	0%	50.00%
4/17/04		0	0%	50.00%
4/18/04		0	0%	50.00%
4/19/04	Follow-Up Calls	0	0%	50.00%
4/20/04	Follow-Up Calls	0	0%	50.00%
4/21/04	Follow-Up Calls	0	0%	50.00%

Table 3-4. (continued)

Date Received		Number Received	Daily %	Cumulative %
4/22/04	Follow-Up Calls	0	0%	50.00%
4/23/04	Follow-Up Calls	0	0%	50.00%
4/24/04		0	0%	50.00%
4/25/04		0	0%	50.00%
4/26/04		0	0%	50.00%
4/27/04		0	0%	50.00%
4/28/04	Follow-Up Calls	0	0%	50.00%
4/29/04	Follow-Up Calls	0	0%	50.00%
4/30/04	Follow-Up Calls	0	0%	50.00%
5/1/04		0	0%	50.00%
5/2/04		0	0%	50.00%
5/3/04		0	0%	50.00%
5/4/04	Cut-off Date	0	0%	50.00%

from the sample is accepted (Babbie, 1992). Thus, the initial sample size for the study was reduced to 18 U.S. cattle feedlots and 12 Texas cattle backgrounding yards. A total of 9 cattle feedlot questionnaires and 6 Cattle backgrounding yards or stockers were answered by the cut off date. Therefore, a usable return rate was 50 percent (9/18) for the U.S. cattle feedlots and 50 percent (6/12) for the Texas cattle backgrounding yards. Table 3-3 shows the daily return rate and cumulative return rate for cattle feedlots and Table 3-4 shows the daily return rate and cumulative return rate for cattle backgrounding yards and stockers.

Data Analysis

The analysis of the data for this study was conducted using two different procedures. Descriptive analysis was conducted to describe the company's productivity identification and distribution of domestic cattle or beef, foreign cattle or beef or a combination of both for retail chain stores/distributors, meat packers/processors, cattle feedlots and cattle backgrounding yards or stockers.

To identify the verification, auditing and documentation requirements of the sample retailers, meat packers/processors (research question 3 on each survey instrument), descriptive analysis was also used. Finally, descriptive analysis was used to describe or represent the operational labeling procedures for the retail chain stores and distributors.

Analysis of the additional annual total capital and incremental costs estimates for each sector or marketing level and the percentage figures and changes (increases or

decreases) associated with market distribution, categories of cattle and case-ready productivity was conducted using a weighted average method.

Retail Chain Stores and Distributors

For the retail chain stores or distributors, each category of cost estimates was converted to dollars per pound of beef sold, using the total pounds of beef sold annually for that individual retail chain of stores or distributors, for each of the individual retail chain stores or distributors in the sample. These figures were then multiplied by the total pounds of beef sold annually by that individual retail chain of stores or distributors to arrive at a total annual cost estimate for each retail chain of stores or distributors on the basis of the total pounds of beef sold annually. A weighted average cost estimate for the retail industry was then calculated by adding together the total annual cost estimates for each of the retail chain stores or distributors in the sample and dividing by the sample's total annual pounds of beef sold (adding together the total pounds of beef sold annually from each retail chain of stores or distributors to reach a final annual total).

Weighted average percentages for the case-ready products were calculated for retail chain stores or distributors. The percentages of case-ready beef products handled by the company (as supplied by the survey instrument) was multiplied by the total pounds of beef sold annually by that individual retail chain of stores or distributors to arrive at a total annual percentage of case-ready beef products for each of the retail chain stores or distributors. A weighted average percent of case-ready products handled and sold by the retail sector was then calculated by taking the total annual percentage of case-ready beef products for each retail chain in the sample and dividing by the sample's

total annual pounds of beef sold. Similar calculation procedures were conducted for the percent changes (increases or decreases) in case-ready products handled and sold by a retail chain due to COOL. The resulting figure was a weighted average percent increase or decrease in the amount of case-ready beef products handled and sold by the retail industry.

Meat Packers and Processors

For meat packers and processors, each separate category of cost estimates was given or converted to dollars per head, using the total number of head slaughtered or processed, for each individual meat packer or processor in the sample. These figures were then multiplied by the total annual number of head of cattle slaughtered or processed by that individual meat packer or processor to arrive at the total annual cost for each meat packer or processor. A weighted average cost estimate for the meat packing and processor industry was then calculated by adding together the total annual cost for each meat packer or processor in the sample and dividing by the sample's total number of head of cattle slaughtered or processed for that particular year.

Weighted average percentages for the case-ready productivity were calculated for meat packers and processors. The percentages of case-ready beef products handled by the company (as supplied by the survey instrument) was multiplied by the total number of head of cattle slaughtered or processed annually by that individual meat packer or processor to arrive at a total annual percentage of case-ready beef products for each of the meat packers or processors in the sample. A weighted average percent of case-ready products handled and sold by each of the meat packers or processors was then calculated

by taking the total annual percentage of case-ready beef products for each company in the sample and dividing by the sample's total number of head of cattle slaughtered or processed annually. Similar calculation procedures were conducted for the percent changes (increases or decreases) in case-ready products handled and sold by a meatpacker or processor due to COOL. The resulting figure was a weighted average percent increase or decrease in the amount of case-ready beef products handled and sold by each individual meat packer or processor.

Categories of cattle slaughtered and processed by meat packers and processor were calculated on a weighted average percentage. The percentages for each category of cattle slaughtered or processed by the individual company (as supplied by the survey instrument) was multiplied by the total number of head of cattle slaughtered or processed annually by that individual meatpacker or processor to arrive at a total percentage of each category of cattle slaughtered or processed by each meatpacker or processor in the sample. A weighted average percent of each category of cattle slaughtered or processed by the meat packing and processing industry was then calculated by adding together the total percentage of each category of cattle slaughtered or processed by each meatpacker or processor and dividing by the sample's total number of head of cattle slaughtered and processed annually.

Finally, a weighted average percent of the various markets where slaughtered and processed cattle are sold was calculated for each meat packer or processor. The percentages for each distribution market (HRI, retail grocery outlets or other markets) by the individual meat packer or processor was multiplied by the total number of head of

cattle slaughtered and processed annually by that individual meat packer or processor to arrive at a total percentage of slaughtered or processed cattle sold to each distribution market by each meat packer or processor in the sample. A weighted average percent for each of the distribution markets for the meat packing and processing industry was then calculated adding together the total percentage of slaughtered and cattle sold to each distribution market by each meat packer or processor and dividing by the sample's total number of head of cattle slaughtered and processed annually.

Cattle Feedlots and Backgrounding Yards

For cattle feedlots and backgrounding yards and stockers, each separate category of total cost estimates was given or converted to dollars per head, using total number of head of cattle on feed or grass, for each individual cattle feeder or backgrounder in the sample. These figures were then multiplied by the total number of head of cattle on feed or grass annually by that individual cattle feeder or backgrounder to arrive at the total annual cost for each cattle feeder or backgrounder. A weighted average cost estimate for each cattle feeder or backgrounder was then calculated by taking the total annual cost for each cattle feeder and backgrounder in the sample and dividing by the sample's total number of head of cattle on feed or grass for that particular year.

Economic Theory of Model

Similar theoretical explanations were used by Brester, Marsh, and Atwood (2004), on the effects of COOL on the marketplace. For this research, an equilibrium displacement model (EDM) was developed and used with the assumptions that mandatory COOL regulations will impose additional marginal production costs on

suppliers at each level of the beef supply or marketing chain. The added costs of implementing COOL included those associated with segregation and identification of beef commodities, management, operation, production, record keeping, verification, certification and other compliance and enforcement costs. Economic theory suggests, these costs will shift the relevant supply curve function upward and to the left in each affected sector. Reductions in derived supply of beef at the retail level causes a reduction in the quantity demanded of beef at that level. As a result of this change the derived demands downstream the marketing or supply chain will be reduced. Ultimately, the effects of added marginal production costs on prices, supply and demand at each marketing level will be determined by the size of cost impacts at each level and the relative supply and demand elasticities at each level.

In order to illustrate the relevant marketing linkages and effects of COOL in the beef supply chain; Figure 3-1, Figure 3-2, and Figure 3-3 show a simplified case in which the beef industry marketing or supply chain is separated into retail, wholesale, and fed cattle sectors and the effects of COOL costs occurring at each marketing level. To simplify the illustrations, fixed input proportions between the farm input (cattle) and marketing services are assumed. Retail demand (D_R), Wholesale demand (D_W), Fed cattle demand (D_C) and the farm supply (S_F) are considered the primary relations, while the demand for cattle (D_F) and the supply of retail beef (S_R), supply of wholesale beef (S_W), and fed cattle (S_C) are considered “derived” relations (Tomek and Robinson). The intersection of demand and supply at each supply chain level determines relative marketing clearing prices (P_R), (P_W), and (P_F) and marketing clearing quantity (Q_0). In

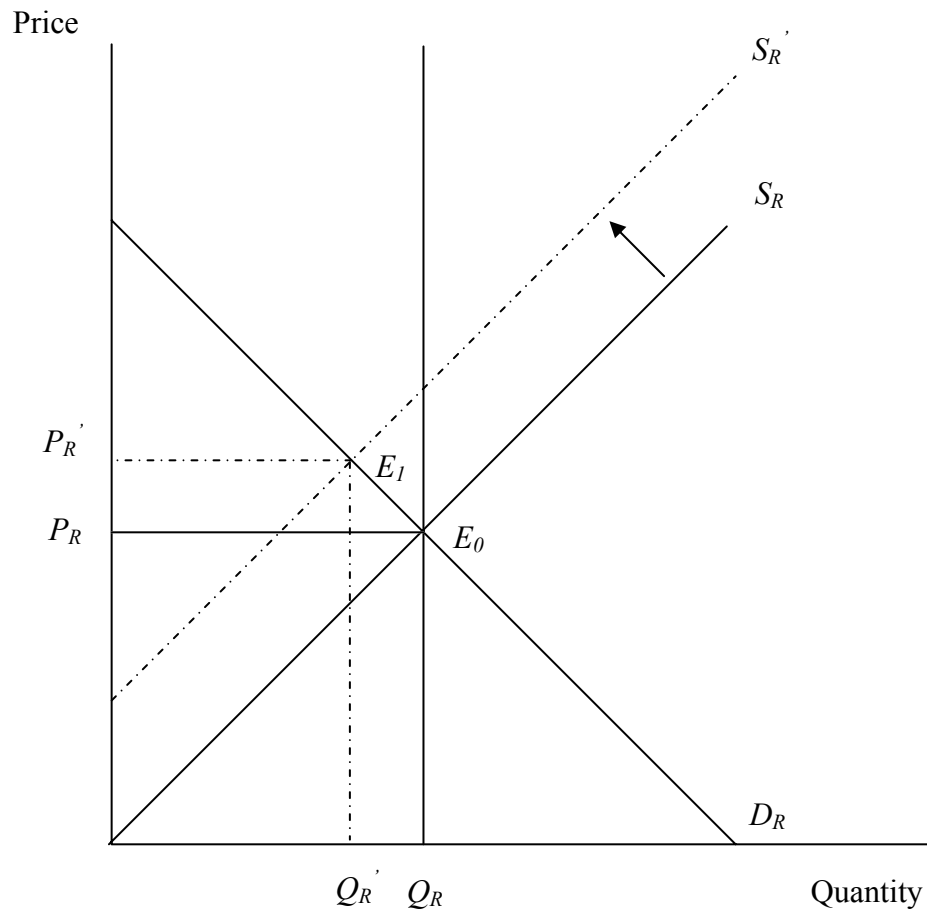
addition to the cost effects on the various market levels, Figure 3-4 illustrates the effects of COOL costs on the retail and wholesale levels and Figure 3-5 shows the effects of COOL costs on the wholesale and farm levels of the beef supply chain.

Figure 3-1 illustrates a situation in which COOL costs occur at the retail level of the beef supply chain. The initial equilibrium occurs at P_R and Q_R . Increased costs of COOL would cause reductions in derived retail supply (shifting from S_R to S_R') and quantity of retail beef (shifting from Q_R to Q_R'). Thus, causing the retail price to increase to P_R' and retail quantity to decline to Q_R' . Responsive to the increase in price and decrease in quantity, the new equilibrium occurs at point E_I (P_R' and Q_R').

Figure 3-2 illustrates a situation in which COOL costs occur at the wholesale level of the beef marketing chain. The initial equilibrium occurs at P_W and Q_W . The additional costs of imposing COOL would cause reductions in derived wholesale supply (shifting from S_W to S_W'). The shift in wholesale supply will in turn cause the wholesale price to increase to P_W' and the quantity of wholesale beef to decrease to Q_W' . Responsive to the price increasing and the quantity decreasing, the new equilibrium occurs at point E_I (P_W' and Q_W').

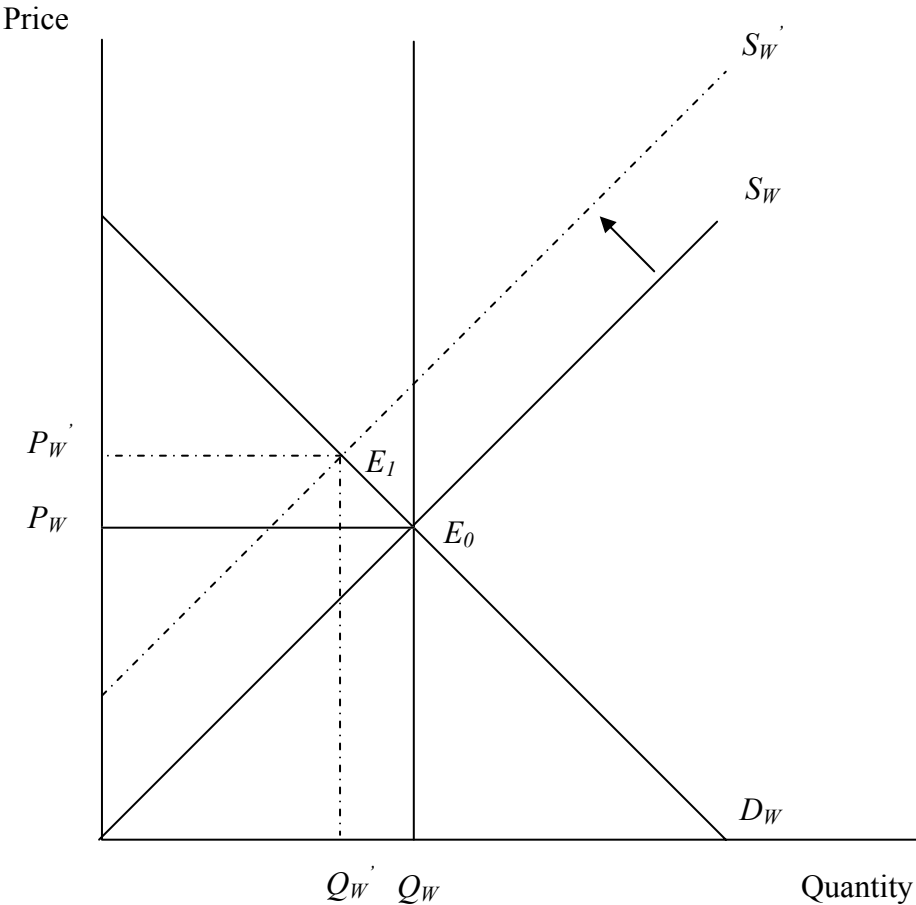
Figure 3-3 shows a situation in which COOL costs occur at the farm cattle level of the beef supply chain. The initial equilibrium occurs at P_F and Q_F . The added costs of imposing COOL on the farm cattle market would cause a reduction in the derived farm cattle supply (shifting from S_F to S_F'). The shifts in the farm cattle supply will result in an increase in the farm cattle price to P_F' and a decline in the quantity of fed

cattle to Q_F' . Due to an increase in price and a decrease in quantity, the new equilibrium lies at point E_1 (P_F' and Q_F').



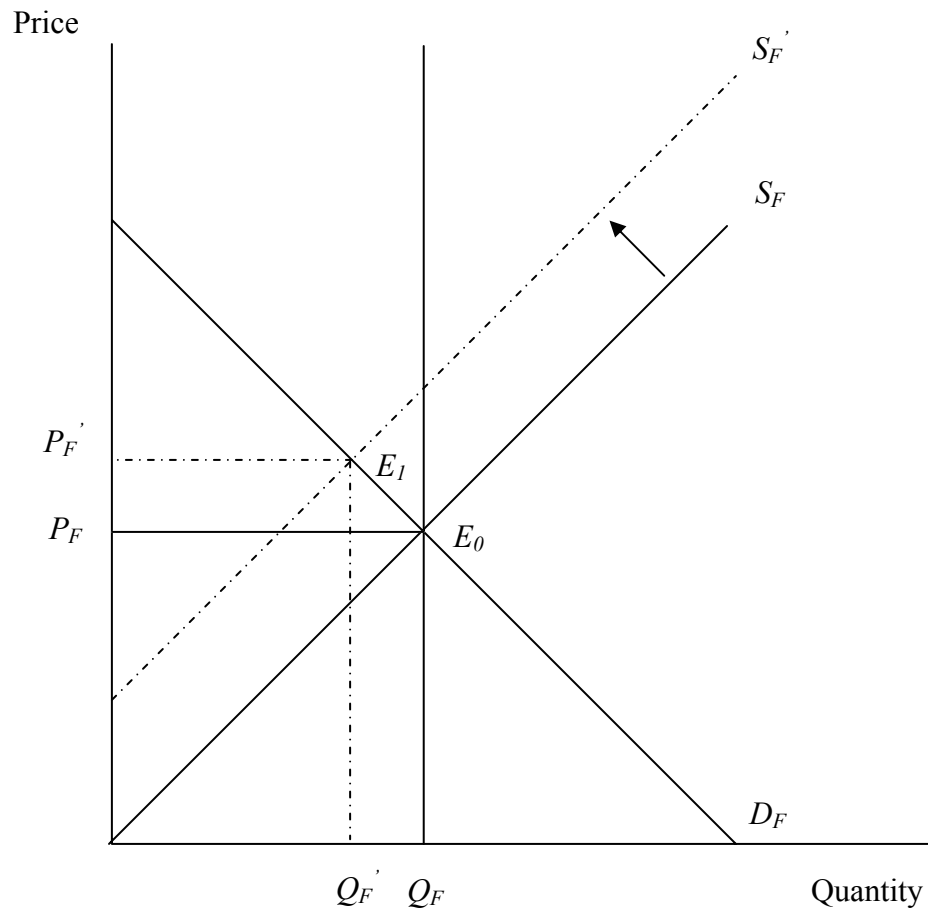
Note: Variable definitions can be found in Table 3-6

Figure 3-1. Effects of imposing COOL costs on the retail level



Note: Variable definitions can be found in Table 3-6

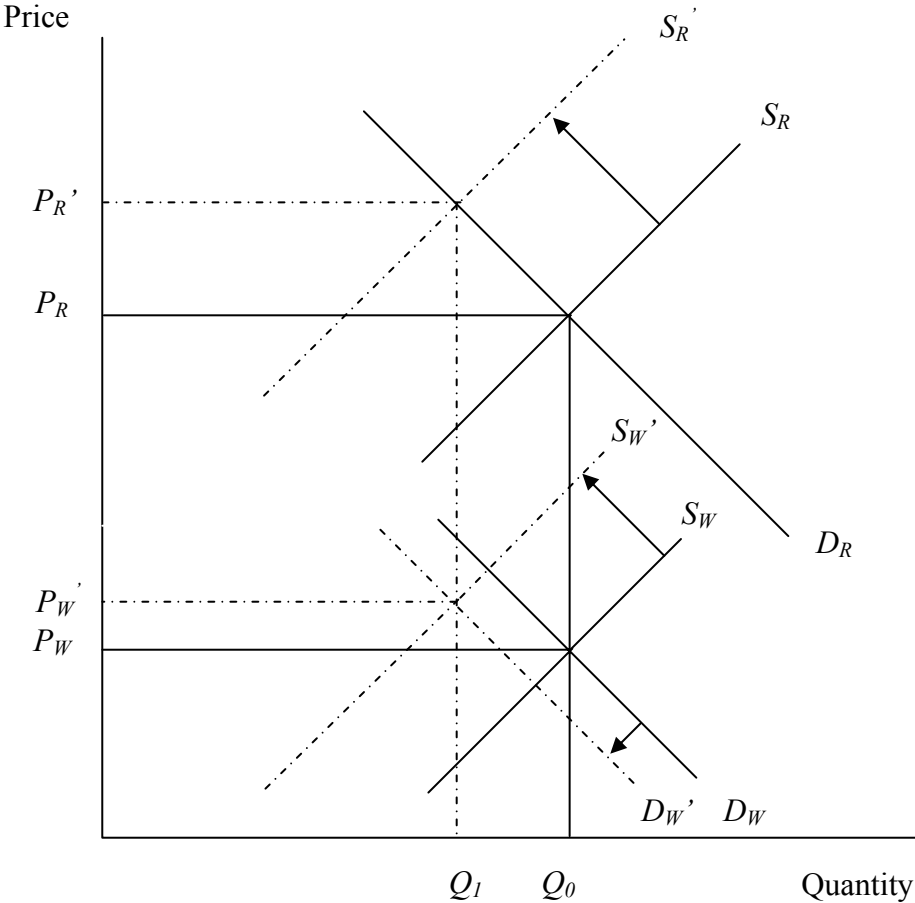
Figure 3-2. Effects of imposing COOL costs on the wholesale level



Note: Variable definitions can be found in Table 3-6

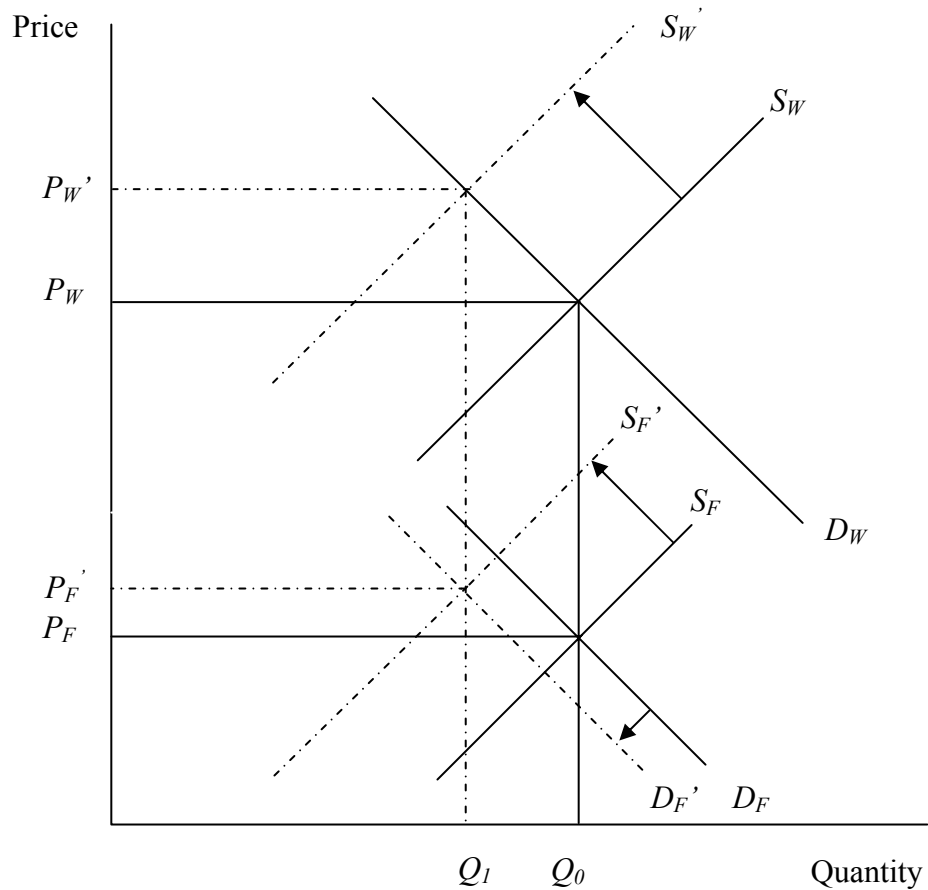
Figure 3-3. Effects of imposing COOL costs on the farm level

Figure 3-4 illustrates the market linkage for a situation in which the induced costs of COOL occur at the retail level and wholesale market. The initial equilibrium occurs at P_R , P_W , and Q_0 . The added costs of COOL that would be assessed to the retail market level would cause a reduction in the derived supply of retail beef (shifting S_R to S_R'). Responsive to the upward shift in the supply of retail beef, the derived demand for



Note: Variable definitions can be found in Table 3-6

Figure 3-4. Effects of imposing COOL costs on the retail and wholesale levels



Note: Variable definitions can be found in Table 3-6

Figure 3-5. Effects of imposing COOL costs on the wholesale and farm levels

wholesale beef would decline to D_W' . The effects of the added costs associated with COOL at the wholesale level are reflected in the reductions of the derived supply of wholesale beef (shifting S_W to S_W'). Whether P_W' is higher or lower than P_W depends upon relative supply and demand elasticities at the retail and wholesale level, but one thing is for certain and that is Q_1 is less than Q_0 (Brester 2004). The shifts in the derived

supply of retail beef and derived supply of wholesale beef would result in the price of retail beef increasing to P_R' and the price of wholesale beef increasing to P_W' . As a result of the higher retail beef price and wholesale beef price, the new equilibrium occurs at P_R' , P_W' , and Q_I .

Taking the marketing linkages one step further down the beef supply chain, Figure 3-5 illustrates the situation in which the implementation of COOL increase costs to the wholesale level and producer or farm level. The initial equilibrium occurs at P_W , P_F , and Q_0 . The increase in costs of COOL at the wholesale level will cause a reduction in the supply of wholesale beef. This decline in the supply of wholesale beef (shifting from S_W to S_W') will, in turn, cause the farm level derived demand for cattle to decrease to D_F' . The effects of the increased costs associated with COOL at the farm level are reflected in the reductions of the primary farm supply (shifting S_F to S_F'). The shifts in the derived supply of wholesale beef and the primary supply of farm level cattle result in the price of wholesale beef increasing to P_W' and the price of farm level cattle increasing to P_F' . Whether or not the P_F' is higher or lower than P_F depends upon the relative elasticities of supply and demand of the given market levels (Brester 2004). The result of a higher wholesale beef price and higher farm level price is a new equilibrium at P_W' , P_F' , and Q_I .

Development of Model

A Structural Model

The structural model of beef industry supply and demand provides the framework for an equilibrium displacement model or linear elasticity model. Similar

model constructs was used recently by Brester and Marsh (2004); and Lusk and Anderson on issues related to COOL. The equilibrium displacement model of the beef supply, or marketing, chain considered four distinct sectors: retail (consumer), wholesale (processor) and fed cattle (finishing) and farm (feeder cattle). Each of the sectors consist of primary and derived relations within the farm-retail marketing chain. Within each sector, marketing levels are linked by production that implicitly incorporates variable input proportions among meat and marketing service input. The use of variable input proportions considers input substitution in response to changing output and input prices (Wohlgenant 1989).

The structural supply and demand model is represented by the following equations (error terms have been omitted).

Beef Sector

(1)	Retail beef primary demand	$Q_D^R = f_1(P_B^R, P_M^R, P_N^R, Z_B^R)$
(2)	Retail beef derived supply	$P_S^R = f_2(Q_B^R, W_B^R)$
(3)	Wholesale beef derived demand	$Q_D^W = f_3(P_B^W, Q_B^R, Z_B^W)$
(4)	Wholesale beef derived supply	$P_S^W = f_4(Q_B^W, W_B^W)$
(5)	Fed (Slaughter) cattle derived demand	$Q_D^C = f_5(P_B^C, Q_B^W, Z_B^C)$
(6)	Fed (Slaughter) cattle derived supply	$P_S^C = f_6(Q_B^C, W_B^C)$
(7)	Farm (Feeder Cattle) derived demand	$Q_D^F = f_7(P_B^F, Q_B^C, Z_B^F)$
(8)	Farm (Feeder Cattle) primary supply	$P_S^F = f_8(Q_B^F, W_B^F)$

Within each meat sector, market levels are linked by downstream quantity variables (Wohlgenant 1989). Each Z_j^i and W_j^i (j = the commodity sector, i = the market level) represent vectors of demand and supply shifters (Davis 1998).

Elasticities Estimates

Direct estimation is generally prohibited by the large number of equations in the system and the identification problems which often exist when simultaneously estimating supply and demand equations at each market level. For this reason, linear own-price demand and supply elasticities for retail beef, wholesale beef and fed cattle were used from a previously published study by Brester and Marsh (Brester 2004) to develop a linear elasticity model and calculate the relative changes in price in response to COOL-induced supply and demand shifts.

Country-of-Origin Labeling Cost Estimates

Exogenous (percentage) changes in COOL costs at each marketing level of the beef industry were obtained from the findings of this research study (Brester 2004). The results of this study estimate that COOL will cost the beef industry a total of \$1.87 billion dollars. The increase total industry costs would be distributed as follows: \$818 million dollars or \$.0833/pound of beef to the retail sector, \$603 million dollars or \$16.99/head of cattle to the packer/processor (wholesale) sector, \$356 million dollars or \$12.94/head of cattle to the feedlot (fed cattle) sector, and \$97 million dollars or \$3.89/head of cattle to the cow/calf producer (feeder cattle). Each of these percentage increases in costs at the retail, wholesale, fed cattle, and feeder cattle markets represent an upward shift in the supply functions, respectively.

Equilibrium Displacement Model

The equilibrium displacement or linear elasticity model can be considered in the same framework as a structural econometric model. According to Brester (2004), an equilibrium displacement model is a linear approximation to underlying and unknown demand and supply functions.” The accuracy of the model depends upon the true demand and supply functions nonlinearity and the magnitude of deviations from equilibrium being considered.

The equilibrium displacement model used for this research was developed by applying the elasticities of supply and demand for retail beef, wholesale beef, fed cattle and feeder cattle to the following equations.

$$(9) \quad \varepsilon^i = \frac{b^i P_0^i}{Q_0^i}$$

$$(10) \quad \eta^i = \frac{d^i P_0^i}{Q_0^i}$$

For the structural model, ε^i ($i =$ the market level) represents the previously estimated elasticity of supply for each of the various industry market levels (retail beef, wholesale beef, fed cattle and feeder cattle) and η^i ($i =$ the market level) is the previously estimated elasticity of demand for each of the various industry market levels. The parameters P_0^i and Q_0^i ($i =$ the market level) are the initial equilibrium five-year average (1999-2004) price and quantity, respectively. Further, the parameter b^i ($i =$ the market level) is the increment in quantity supplied due to a unit change in price or slope of the supply curve and the parameter d^i ($i =$ the market level) is the increment in quantity demanded due to a unit change in price or the slope of the demand curve. Both b^i and d^i can be applied to

each of the various market levels with the corresponding elasticities of supply and demand. Based on economic theory, b will be a positive number as a result of the positive relationship between price and quantity in a supply curve function and d will be a negative number due to the inverse relationship between price and quantity. However, because the supply curve is determined by price ($P_0^i = a_0^i + bQ_0^i$), the value of b^i is inverted such that the actual slope of the supply curve is represented as ($b^i = P_0^i / \epsilon^i Q_0^i$). In doing so, the actual slope of the supply curve must equal the price when is set to equal zero. Using the elasticities of supply and demand for retail beef, wholesale beef, fed cattle and feeder cattle from a previous published study and estimated five year average (July, 1999 through June, 2004) prices and quantities for retail beef, wholesale cutout values, fed cattle, and feeder cattle the values for the parameters of b^i and d^i are calculated for each of the various marketing levels. Parameter definitions are presented in Table 3-5.

By specifying values of b^i and d^i , the values for the price intercepts of the supply curve function and the quantity intercepts of the demand cost curve functions for each market level are generated. That is,

$$(11) \quad P_{S0}^R = a_0^R + b^R Q_0^R$$

$$(12) \quad P_{S1}^R = a_1^R + b^R Q_1^R$$

$$(13) \quad Q_{D0}^R = c_0^R + d^R P_0^R$$

$$(14) \quad Q_{D1}^R = c_1^R + d^R P_1^R$$

; where $a_1^R = a_0^R + k^R$ and $a_1^R > a_0^R$
; where $c_1^R = c_0^R + k^R$, and $c_1^R > c_0^R$

Table 3-5. Parameter Definitions, Estimates, and Sources for the Equilibrium Displacement Model

Parameter Source	Definition	Estimate	
ε^R	Own-price elasticity of retail beef demand (All Fresh Baseline)	-0.70	Brester, 1996
ε^R	Own-price elasticity of retail beef demand (New Series Baseline)	-0.90	estimated ^a
ε^W	Wholesale beef own-price derived demand elasticity (Heavy Select Baseline)	-0.57	Marsh, 1992
ε^W	Wholesale beef own-price derived demand elasticity (Heavy Choice Baseline)	-0.77	estimated ^a
ε^C	Slaughter cattle own-price derived demand elasticity	-0.66	Marsh, 1992
ε^F	Farm level own-price derived demand elasticity	-0.62	Marsh, 2001
η^R	Own-price derived retail beef supply elasticity	0.36	Brester, 2004
η^W	Own-price derived wholesale beef supply elasticity	0.28	Brester, 2004
η^C	Own-price derived slaughter cattle supply elasticity	0.26	Marsh, 1994
η^F	Own-price farm supply elasticity	0.22	Marsh, 2003

^aThe own-price elasticity of retail beef demand and wholesale beef own-price derived demand elasticity are estimated.

$$\begin{aligned}
(15) \quad P_{S0}^W &= a_0^W + b^W Q_0^W && ; \text{ where } a_1^W = a_0^W + k^W \text{ and } a_1^W > a_0^W \\
(16) \quad P_{S1}^W &= a_1^W + b^W Q_1^W \\
(17) \quad Q_{D0}^W &= c_0^W + d^W P_0^W && ; \text{ where } c_1^W = c_0^W + k^W, \text{ and } c_1^W > c_0^W \\
(18) \quad Q_{D1}^W &= c_1^W + d^W P_1^W \\
(19) \quad P_{S0}^C &= a_0^C + b^C Q_0^C && ; \text{ where } a_1^C = a_0^C + k^C \text{ and } a_1^C > a_0^C \\
(20) \quad P_{S1}^C &= a_1^C + b^C Q_1^C \\
(21) \quad Q_{D0}^C &= c_0^C + d^C P_0^C && ; \text{ where } c_1^C = c_0^C + k^C, \text{ and } c_1^C > c_0^C \\
(22) \quad Q_{D1}^C &= c_1^C + d^C P_1^C \\
(23) \quad P_{S0}^F &= a_0^F + b^F Q_0^F && ; \text{ where } a_1^F = a_0^F + k^F \text{ and } a_1^F > a_0^F \\
(24) \quad P_{S1}^F &= a_1^F + b^F Q_1^F \\
(25) \quad Q_{D0}^F &= c_0^F + d^F P_0^F && ; \text{ where } c_1^F = c_0^F + k^F, \text{ and } c_1^F > c_0^F \\
(26) \quad Q_{D1}^F &= c_1^F + d^F P_1^F
\end{aligned}$$

where P_{S0}^i represents the real supply price of the historical supplied quantity by the particular sector, P_{S1}^i is the new equilibrium price of the historical quantity supplied by the sector following the increases in costs of implementing country-of-origin labeling regulations, Q_{D0}^i is the initial equilibrium quantity demanded by the sector or consumer and Q_{D1}^i is the new equilibrium quantity demanded by a sector or a consumer as a result of a leftward shift in the supply curve. The unknown parameters of the structural model are a_0^i , a_1^i , c_0^i , c_1^i , and P_1^i , respectively ($i = \text{market level}$). In the model, a_0^i is the initial price intercept of the supply curve, a_1^i is the new price intercept of the supply curve as a result of the supply shift, c_0^i is the initial equilibrium quantity intercept of the demand curve, c_1^i is the new equilibrium quantity intercept of the demand curve as a result of the

leftward shift in the supply curve due to the imposing of COOL costs, and P_I^i is the new market clearing equilibrium price of the supply and demand curve functions as a result of imposing COOL costs. In this analysis, the original equilibrium quantity (Q_0^i) is held constant, thus the values for Q_{S0}^i , Q_{SI}^i , Q_{D0}^i and Q_{DI}^i are equal to Q_0^i . Original quantity is held constant because the purpose of this research is to determine what magnitude demand must increase under the industry's current production. By specifying the values for Q_{S0}^i , P_0^i and b^i in equation (11), (15), (19), and (23) the value for a_0^i can be generated. The value of a_0^i is then used to calculate a_I^i by applying to the equation $a_I^i = a_0^i + k^i$. In this analysis, the parameter k^i is the estimated increase in the costs of imposing COOL at each marketing level. Using the weighted average cost estimates determined by this particular research study for each of the market levels as the parameter k^i and the calculated a_0^i , the value for a_I^i can be generated. Next, by applying the specified value for Q_{SI}^i and the generated values of a_I^i and b^i to equation (12), (16), (20), and (24) the new equilibrium price (the value for P_I^i) can be calculated for each marketing level. By determining the values for the unknown parameters b^i , a_0^i , a_I^i , and P_I^i , the percent change in the supply curve function and price can be generated. That is,

$$(27) \quad \delta^i = \frac{(a_I^i - a_0^i)}{a_0^i} \times 100\%$$

$$(28) \quad \lambda^i = \frac{(P_I^i - P_0^i)}{P_0^i} \times 100\%$$

where δ^i is the percentage change or magnitude in the decrease in the supply curve function at each marketing level and λ^i is the percentage change in the price at each

marketing level.

Similar to the procedural steps taken in generating (determining) the unknown parameters of the supply curve function, the parameters in the demand curve function equations can be generated. The only difference is the demand curve function is a determinant of quantity whereas the supply curve function is a determinant of price. Therefore, the demand equation is represented as $(Q_{D0}^i = c_0^i + dP_0^i)$ and the parameters c_0^i and c_1^i are quantity-intercepts. By specifying the values for Q_{D0}^i , P_0^i , and d^i in equations (13), (17), (21), and (25) the value for c_0^i can be generated. . Next, by applying the specified value for Q_{D1}^i and the generated values of P_1^i and d^i to equations (14), (18), (22), and (26) the value of c_1^i can be generated for each marketing level. By applying the value of c_1^i to the equation $c_1^i = c_0^i + k^i$, the value for k^i can be calculated. In this equation, k^i is the estimated increase in the demand function needed to offset or negate the increase in costs of imposing COOL at each marketing level. By determining the values of the unknown parameters d^i , c_0^i , and c_1^i , the percentage change in the demand curve function can be calculated. That is,

$$(29) \quad \alpha^i = \frac{(c_1^i - c_0^i)}{c_0^i} \times 100\%$$

where α^i is the percentage change or magnitude of increase in the demand curve function at each marketing level.

In addition to generating the values of c_0^i and c_1^i (quantity-intercepts), the values of the price-intercepts of the demand curve function must be calculated. The purpose of determining the price-intercepts of the demand function is having the corresponding

values for generating the changes in producer, consumer, and social surplus. Similar to the supply function, the price-intercepts are calculated using the following equations,

$$(30) \quad P_{D0}^i = g_0 + d^i Q_{D0}^i$$

$$(31) \quad P_{D1}^i = g_1 + d^i Q_{D1}^i$$

By specifying the values for P_{D0}^i , d^i , and Q_{D0}^i in equation (30), the value of g_0^i can be generated. In this analysis, g_0^i is the initial price-intercept of the demand curve. Next, by applying the specified values of P_{D1}^i , Q_{D1}^i , and d^i to equation (31), the value of g_1^i can be generated for each marketing level. The value of g_1^i represents the new equilibrium price-intercept of the demand function as a result of the outward shift in the demand curve necessary to offset the costs of COOL. Variable definitions are presented in Table 3-6.

Producer, Consumer and Overall Society Surplus with No Change in Demand

In addition to illustrating the marketing effects of imposing COOL costs on the various market levels in the beef industry, Figures 3-6 and 3-7 examine the social welfare effects of imposing COOL costs on participants in the beef industry, given the assumption that there is no change in consumer demand. In other words, Figures 3-6 and 3-7 show the changes in producer, consumer and overall economic welfare for each of the marketing levels of the beef industry under the conditions where there is only an upward shift (decrease) in the supply curve as a result of the increased costs of COOL. In Figures 3-6 and 3-7, the initial equilibrium (P_0^i, Q_0^i) is represented by point E_0^i , where the original market supply and demand costs functions intersect one another. As a result of the increases in costs of implementing COOL, the supply curve takes an upward

Table 3-6. Variable Definitions for the Structural and Equilibrium Displacement Model

Symbol	Definition
S_R	Initial supply curve function of retail beef
S_R'	New supply curve function of retail beef as a result of increased costs of COOL
S_W	Initial supply curve function of wholesale beef
S_W'	New supply curve function of wholesale beef as a result of increased costs of COOL
S_F	Initial supply curve function of farm level cattle
S_F'	New supply curve function of farm level cattle as a result of increased costs of COOL
D_R	Initial demand curve function of retail beef
D_R'	New demand curve function of retail beef as a result of change in demand due to COOL
D_W	Initial demand curve function of wholesale beef
D_W'	New demand curve function of wholesale beef due a change in demand due to COOL
D_F	Initial demand curve function of farm level cattle
D_F'	New demand curve function of farm level cattle due to change in demand from COOL
P_R	Initial equilibrium price of retail beef
P_R'	New equilibrium price of retail beef as a result of COOL
P_W	Initial equilibrium price of wholesale beef
P_W'	New equilibrium price of wholesale beef as a result of COOL
P_F	Initial equilibrium price of farm level cattle
P_F'	New equilibrium price of farm level cattle as a result of COOL
Q_R	Initial equilibrium quantity of retail beef
Q_R'	New equilibrium quantity of retail beef as a result of COOL
Q_W	Initial equilibrium quantity of wholesale beef
Q_W'	New equilibrium quantity of wholesale beef as a result of COOL
Q_F	Initial equilibrium quantity of farm level cattle
Q_F'	New equilibrium quantity of farm level cattle as a result of COOL
Q_0	Initial equilibrium quantity for each i^{th} market level
Q_1	New equilibrium quantity for each i^{th} market level

Table 3-6 (continued)

Symbol	Definition
E_0	Initial equilibrium point for each i^{th} market level
E_1	New equilibrium point for each i^{th} market level
Q_D^R	Quantity of beef demanded at the retail level
Q_S^R	Quantity of beef supplied at the retail level
Q_D^W	Quantity of beef demanded at the wholesale level
Q_S^W	Quantity of beef supplied at the wholesale level
Q_D^C	Quantity of fed cattle demanded at the slaughter level
Q_S^C	Quantity of fed cattle supplied at the slaughter level
Q_S^F	Quantity of feeder cattle supplied at the farm level
Q_D^F	Quantity of feeder cattle demanded at the farm level
Q_B^R	Quantity of beef at the retail level
Q_B^W	Quantity of beef at the wholesale level
Q_B^C	Quantity of cattle at the slaughter level
P_B^R	Real retail supply price of beef
P_M^R	Real retail supply price of pork
P_N^R	Real retail supply price of poultry
P_B^W	Real wholesale supply price of beef
P_B^C	Real supply price of fed cattle
P_B^F	Real supply price of feeder cattle
Z_j^i	Demand shifters for the j^{th} commodity sector at the i^{th} market level
W_j^i	Supply shifters for the j^{th} commodity sector at the i^{th} market level
ε^i	Own-price supply elasticity at the i^{th} market level
η^i	Own-price demand elasticity at the i^{th} market level
b^i	Increment in quantity supplied due to a unit change in price at the i^{th} market level
d^i	Increment in quantity demanded due to a unit change in price at the i^{th} market level
P_0^i	Initial equilibrium five-year average price for each i^{th} market level
Q_0^i	Initial equilibrium five-year average quantity for each i^{th} market level

Table 3-6 (continued)

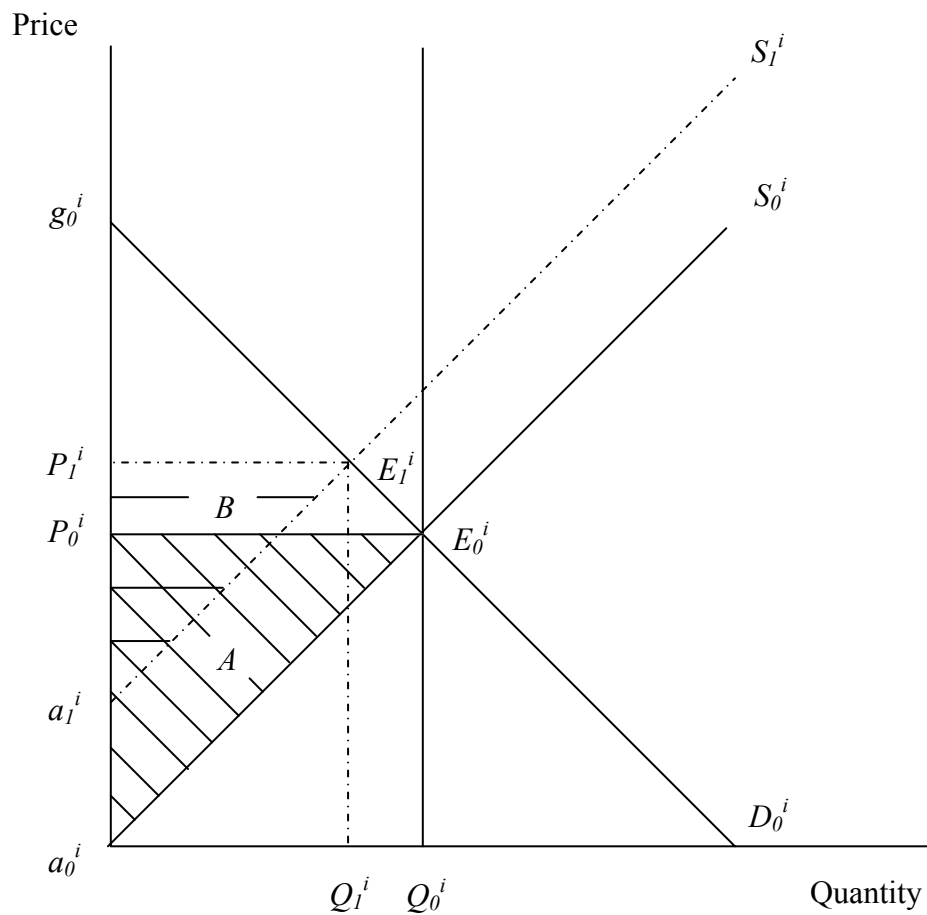
Symbol	Definition
a_0^i	Initial price-intercept of supply for each i^{th} market level
a_1^i	Price-intercept of supply for each i^{th} market level from increased costs of COOL
c_0^i	Initial quantity-intercept of demand for each i^{th} market level
c_1^i	Quantity-intercept of demand for each i^{th} market level from increased costs of COOL
g_0^i	Initial price-intercept of demand for each i^{th} market level
g_1^i	Price-intercept of demand for each i^{th} market level from increased costs of COOL
P_0^i	Initial equilibrium price for each i^{th} market level
P_1^i	New equilibrium price for each i^{th} market level due to a percentage change in demand
P_2^i	New equilibrium price for each i^{th} market level as a result of increased costs of COOL
Q_0^i	Initial equilibrium quantity for each i^{th} market level
Q_1^i	New equilibrium quantity for each i^{th} market level as a result of COOL
S_0^i	Initial supply curve function for each i^{th} market level
S_1^i	New supply curve function for each i^{th} market level as a result of COOL
D_0^i	Initial demand curve function for each i^{th} market level
D_1^i	New demand curve function for each i^{th} market level as a result of COOL
E_0^i	Initial equilibrium point for each i^{th} market level
E_1^i	New equilibrium point for each i^{th} market level due to a percentage change in demand
E_2^i	New equilibrium point for each i^{th} market level as a result of increased costs of COOL
A	Initial producer surplus for each i^{th} market level
B	New producer surplus for each i^{th} market level as a result of increased costs of COOL
C	Initial consumer surplus for each i^{th} market level
D	New consumer surplus for each i^{th} market level as a result of increased costs of COOL
Q_{S0}^R	Initial supply of retail beef
Q_{S1}^R	Supply of retail beef resulting from increased costs of COOL
Q_{S0}^W	Initial supply of wholesale beef
Q_{S1}^W	Supply of wholesale beef resulting from increased costs of COOL
Q_{S0}^C	Initial supply of fed cattle

Table 3-6 (continued)

Symbol	Definition
Q_{SI}^C	Supply of fed cattle resulting from increased costs of COOL
Q_{S0}^F	Initial supply of feeder cattle
Q_{SI}^F	Supply of feeder cattle resulting from increased costs of COOL
Q_{D0}^R	Initial demand of retail beef
Q_{DI}^R	Demand for retail beef resulting from increased costs of COOL
Q_{D0}^W	Initial demand of wholesale beef
Q_{DI}^W	Demand for wholesale beef resulting from increased costs of COOL
Q_{D0}^C	Initial demand for fed cattle
Q_{DI}^C	Demand for fed cattle resulting from increased costs of COOL
Q_{D0}^F	Initial demand for feeder cattle
Q_{DI}^F	Demand for feeder cattle resulting from increased costs of COOL
P_{S0}^R	Initial equilibrium price for the supplied quantity of retail beef
P_{SI}^R	New equilibrium price for the supplied quantity of retail beef from COOL
P_{S0}^W	Initial equilibrium price for the supplied quantity of wholesale beef
P_{SI}^W	New equilibrium price for the supplied quantity of wholesale beef as a result of COOL
P_{S0}^C	Initial equilibrium price for the supplied quantity of fed cattle
P_{SI}^C	New equilibrium price for the supplied quantity of fed cattle as a result of COOL
P_{S0}^F	Initial equilibrium price for the supplied quantity of feeder cattle
P_{SI}^F	New equilibrium price for the supplied quantity of feeder cattle from COOL
a_0^R	Initial price-intercept for supply of retail beef
a_1^R	Price-intercept for supply of retail beef resulting from increased costs of COOL
a_0^W	Initial price-intercept for supply of wholesale beef
a_1^W	Price-intercept for supply of wholesale beef resulting from increase costs of COOL
a_0^C	Initial price-intercept for supply of fed cattle
a_1^C	Price-intercept for supply of fed cattle resulting from increased costs of COOL
a_0^F	Initial price-intercept for supply of feeder cattle
a_1^F	Price-intercept for supply of feeder cattle resulting from increased costs of COOL

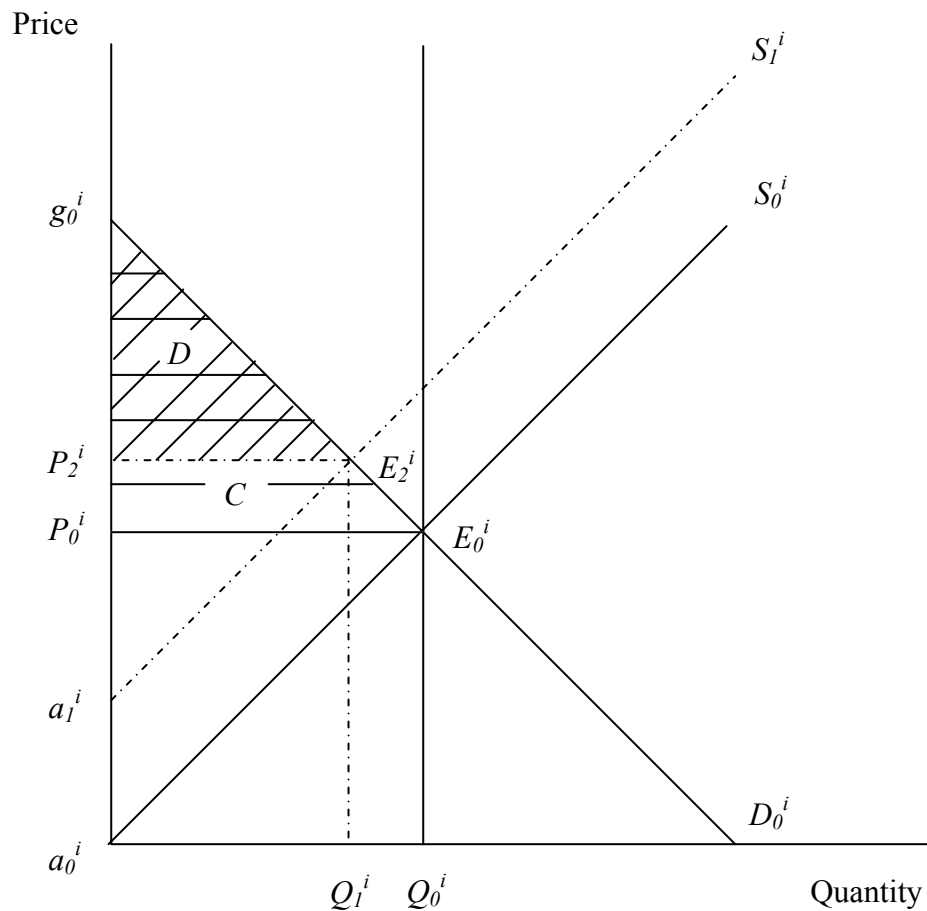
Table 3-6 (continued)

Symbol	Definition
g_0^R	Initial price-intercept for demand of retail beef
g_1^R	Price-intercept for demand of retail beef resulting from increased costs of COOL
g_0^W	Initial price-intercept for demand of wholesale beef
g_1^W	Price-intercept for demand of wholesale beef resulting from increased costs of COOL
g_0^C	Initial price-intercept for demand of fed cattle
g_1^C	Price-intercept for demand of fed cattle resulting from increased costs of COOL
g_0^F	Initial price-intercept for demand of feeder cattle
g_1^F	Price-intercept for demand of feeder cattle resulting from increased costs of COOL
c_0^R	Initial quantity-intercept for demand of retail beef
c_1^R	Quantity-intercept for demand of retail beef resulting from increased costs of COOL
c_0^W	Initial quantity-intercept for demand of wholesale beef
c_1^W	Quantity-intercept for demand of wholesale beef resulting from increased costs COOL
c_0^C	Initial quantity-intercept for demand of fed cattle
c_1^C	Quantity-intercept for demand of fed cattle resulting from increased costs of COOL
c_0^F	Initial quantity-intercept for demand of feeder cattle
c_1^F	Quantity-intercept for demand of feeder cattle resulting from increased costs of COOL
k^R	Estimated increase in costs of imposing COOL at the retail level
$k^R,$	Estimated increase in retail demand as a result of imposing COOL
k^W	Estimated increase in costs of imposing COOL at the wholesale level
$k^W,$	Estimated increase in wholesale demand as a result of imposing COOL
k^C	Estimated increase in costs of imposing COOL at the slaughter level
$k^C,$	Estimated increase in the demand of fed cattle as a result of imposing COOL
k^F	Estimated increase in costs of imposing COOL at the farm (feeder) level
$k^F,$	Estimated increase in the demand of feeder cattle as a result of imposing COOL
δ^i	Percentage change in supply at the i^{th} market level
λ^i	Percentage change in price at the i^{th} market level
α^i	Percentage change in demand at the i^{th} market level



Note: Variable definitions can be found in Table 3-6

Figure 3-6. Changes in producer surplus with no change in consumer demand



Note: Variable definitions can be found in Table 3-6

Figure 3-7. Changes in consumer surplus with no change in consumer demand

shift (decrease), thus causing an increase in the equilibrium price and a decrease in the quantity at the retail, wholesale, and fed cattle (slaughter) marketing levels and creating a new equilibrium point. As shown in Figures 3-6 and 3-7, the new equilibrium point (P_2^i, Q_1^i) lies at E_2^i for each of the marketing levels. The result of the increase in the

equilibrium price (P_0^i to P_2^i) and decrease in the equilibrium quantity (Q_0^i to Q_1^i), is changes in producer, consumer and overall economic welfare at the participating market level.

Producer welfare effects can be measured by the change in producer surplus that result from moving the original equilibrium (P_0^i, Q_0^i) to the new equilibrium (P_2^i, Q_1^i). In Figure 3-6, shaded *A* represents the market-level producer surplus at the original equilibrium price and quantity and shaded *B* represents the market-level producer surplus at the new equilibrium price and quantity (P_2^i, Q_1^i) that results from the increased COOL marketing and production costs affecting the retail, wholesale, fed cattle and farm levels.

Consumer welfare effects can be measured by the change in consumer surplus that results from moving the original equilibrium (P_0^i, Q_0^i) to the new equilibrium (P_2^i, Q_1^i). In Figure 3-7, shaded area *C* represents the market-level consumer surplus at the original equilibrium price and quantity and shaded area *D* represents the market-level consumer surplus at the new equilibrium price and quantity (P_2^i, Q_1^i) that results from the increased COOL marketing costs affecting the retail, wholesale, fed cattle and farm levels.

Using the generated linear supply and demand functions, price intercepts, original quantity and equilibrium prices, the sizes of the shaded areas can be calculated. By specifying the values for the shaded areas, the changes in producer, consumer and economic welfare (surplus) can be expressed as:

$$(32) \quad \Delta PS = \text{area } B - \text{area } A = \left[\frac{1}{2} Q_1^i (P_2^i - a_1^i) \right] - \left[\frac{1}{2} Q_0^i (P_0^i - a_0^i) \right]$$

$$(33) \quad \Delta CS = \text{area } D - \text{area } C = [\frac{1}{2} Q_1^i (g_0^i - P_2^i)] - [\frac{1}{2} Q_0^i (g_0^i - P_0^i)]$$

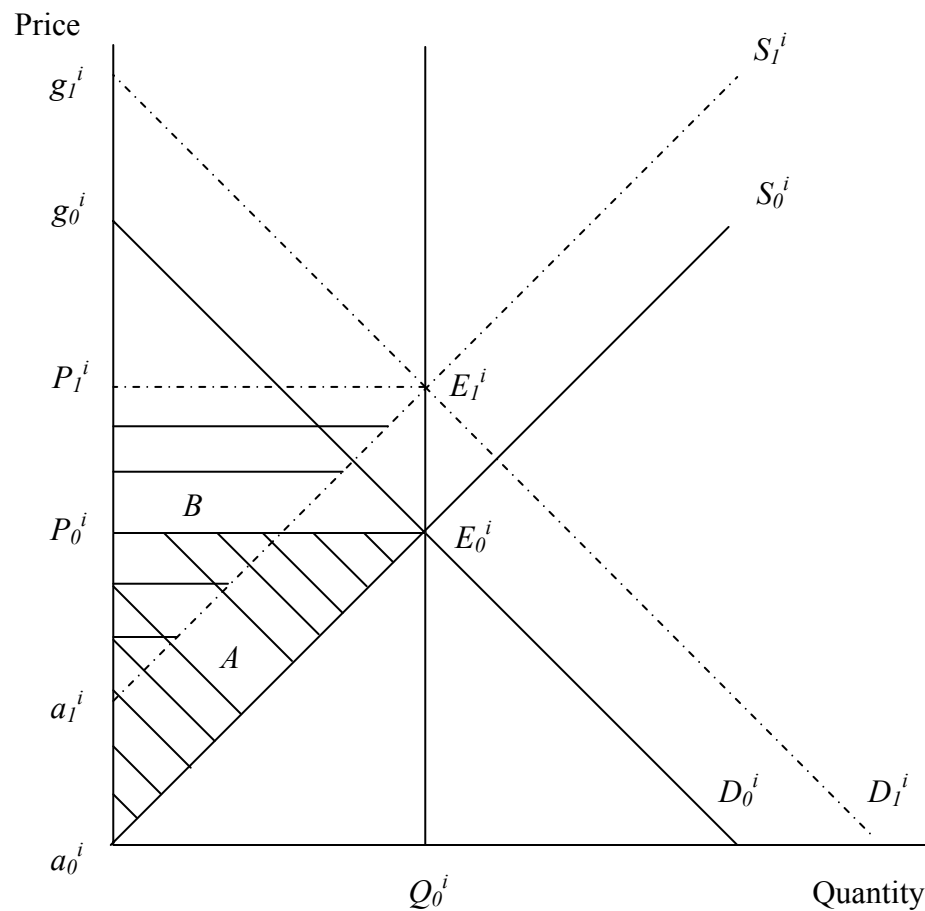
$$(34) \quad \Delta EW = \frac{1}{2} Q_0^i [g_0^i - P_2^i - g_0^i + P_0^i + P_2^i - a_1^i - P_0^i + a_0^i]$$

where ΔPS represents the change in producer surplus and ΔCS represents the change in consumer surplus and ΔSW represents the change in individual economic surplus.

Producer, Consumer and Overall Society Surplus with a Percentage Change in Demand

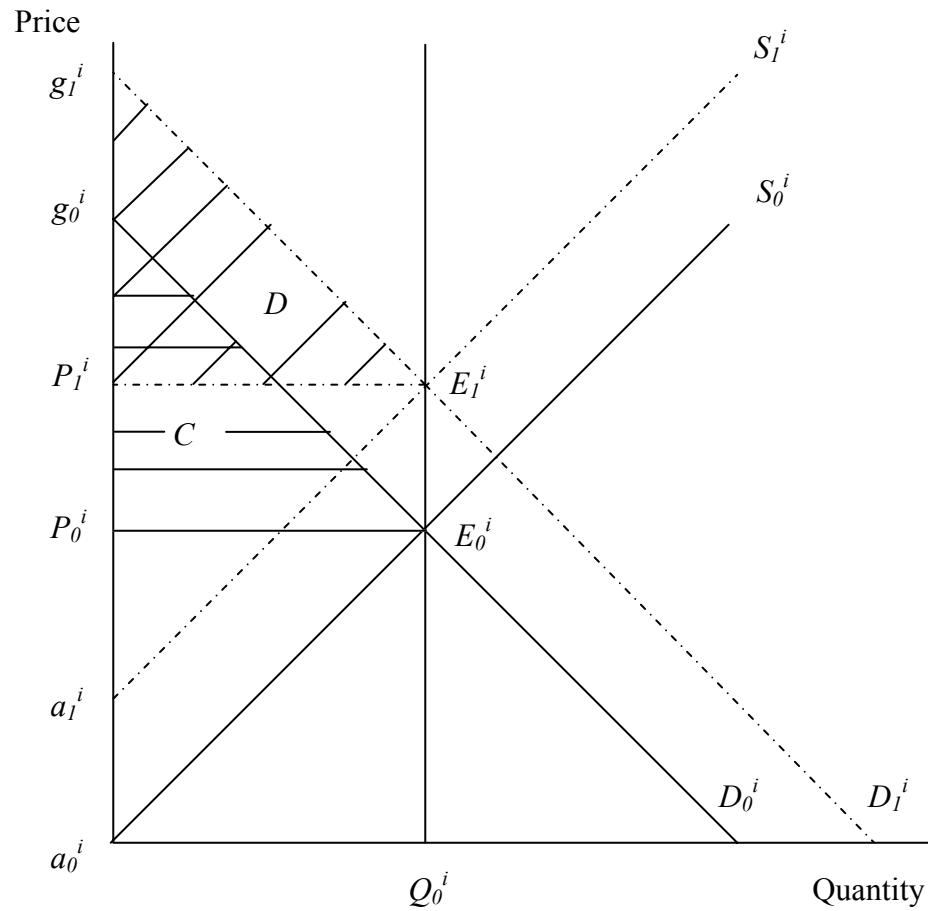
Alongside a look at the effects of COOL costs on producer, consumer, and social welfare with no change in demand, Figures 3-8 and 3-9 examine the changes in surplus given an outward shift (increase) in consumer demand that is necessary for offsetting the shift in supply. In Figures 3-8 and 3-9, the initial or original equilibrium (P_0^i, Q_0^i) is represented by point E_0^i , where the original market supply and demand cost functions intersect one another. As mentioned the increases in costs of implementing COOL will result in the supply curve taking an upward shift, thus causing an increase in the equilibrium price at the retail, wholesale, and fed cattle marketing levels and creating a new equilibrium point. In order to offset or negate the upward shift in supply, given that the original quantity is held constant, the demand curve must shift outward (increase) until reaching the new equilibrium point. As shown in Figures 3-8 and 3-9, the new equilibrium point (P_1^i, Q_0^i) lies at E_1^i for each represented marketing level. Point E_1^i illustrates where the new equilibrium point lies given that there is a percentage change in demand. The result, of the increase in the equilibrium price $(P_0^i$ to $P_1^i)$ and the assumption that the original quantity is being held constant, is changes in the producer and consumer surplus at each given market level.

Producer welfare effects can be measured by the change in producer surplus that result from moving the original equilibrium (P_0^i, Q_0^i) to the new equilibrium (P_1^i, Q_0^i) . In Figure 3-8, shaded A represents the market-level producer surplus at the original equilibrium price and quantity and shaded B represents the market-level producer



Note: Variable definitions can be found in Table 3-6

Figure 3-8. Changes in producer surplus resulting from a percentage increase in demand



Note: Variable definitions can be found in Table 3-6

Figure 3-9. Changes in consumer surplus resulting from a percentage increase in demand

surplus at the new equilibrium price and quantity (P_1^i , Q_1^i) that results from outward shift in demand due to the increased marketing and production costs of COOL affecting the retail, wholesale, fed cattle and farm levels.

Consumer welfare effects can be measured by the change in consumer surplus that results from moving the original equilibrium (P_0^i, Q_0^i) to the new equilibrium (P_1^i, Q_0^i) . In Figure 3-9, shaded area *C* represents the market-level consumer surplus at the original equilibrium price and quantity and shaded area *D* represents the market-level consumer surplus at the new equilibrium price and quantity (P_1^i, Q_0^i) that results from the increased COOL marketing costs affecting the retail, wholesale, fed cattle and farm levels.

Using the generated linear supply and demand functions, price intercepts, original quantity and equilibrium prices, the sizes of the shaded areas can be calculated. By specifying the values for the shaded areas, the changes in producer, consumer and economic welfare (surplus) can be expressed as:

$$(35) \quad \Delta PS = \text{area } B - \text{area } A = [\frac{1}{2} Q_0^i (P_1^i - a_1^i)] - [\frac{1}{2} Q_0^i (P_0^i - a_0^i)]$$

$$(36) \quad \Delta CS = \text{area } D - \text{area } C = [\frac{1}{2} Q_0^i (g_1^i - P_1^i)] - [\frac{1}{2} Q_0^i (g_0^i - P_0^i)]$$

$$(37) \quad \Delta EW = \frac{1}{2} Q_0^i [g_1^i - P_1^i - g_0^i + P_0^i + P_1^i - a_1^i - P_0^i + a_0^i]$$

where ΔPS represents the change in producer surplus and ΔCS represents the change in consumer surplus and ΔSW represents the change in individual economic surplus or society welfare.

CHAPTER IV

RESULTS AND FINDINGS

This study attempted to find or estimate the total incremental and capital costs and productivity changes of implementing mandatory COOL regulations in each sector of the beef industry. It also examined the market and social welfare effects of implementing COOL on all participants of the beef industry.

Cost estimates were based upon several marketing, operational and marginal production costs associated with the cost and production structure of the particular industry sector being surveyed. Productivity distribution and segregation changes were based upon the aspect of the company handling foreign beef, domestic beef, or a combination of both and the changes in management and marketing practices of the particular sector as a result of implementing COOL.

Furthermore, this study examines the changes in market and social welfare effects of implementing COOL on all participants of the beef industry by, first, determining the magnitude of increases in the demand for retail beef, wholesale beef, fed cattle and feeder cattle needed to negate the increased costs of implementing COOL and, secondly, calculating the changes in consumer, producer and social surplus using weighted average cost estimates from the survey, estimated five-year average price and quantity, and previously published linear supply and demand elasticities for each particular marketing level of the beef supply chain.

Survey Results for Retail Chain Stores and Distributors

Findings Related to Research Question One

This research question was designed to determine whether or not the company would continue to handle foreign beef, domestic beef, or both. All three of the retail chain stores and distributors who responded to the questionnaire survey would continue handling country-of-origin beef products other than products born, raised and slaughtered in the United States. Furthermore, the responding retail stores would continue to handle foreign beef products based on consumer demand and determined by our grocery retail owners, pre-cooked fajitas, patties, briskets, and sausages of mixed, or foreign origin would continue to be handled, and New Zealand lamb, Canadian hams, and less than 2 percent Canadian ground beef would also be carried.

Findings Related to Research Question Two

The three responding retail chain stores and distributors indicated they would carry foreign beef products in all of their retail chain stores. This indicates no inclination or revealed preference to differentiate markets through different concept stores.

Findings Related to Research Question Three

This research question was designed to determine the additional incremental and capital costs that a company could incur from the implementation and compliance of COOL regulations. Categories of incremental and capital costs were separated to contain various operational, production and management costs. The results of this

question are reported in Table 4-1. Industry costs were estimated to increase by the following amounts:

- labor costs amounted to \$0.0098 per pound of beef sold
- wrapping and processing costs totaled \$0.0029 per pound of beef sold
- purchasing costs were \$0.0050 per pound of beef sold
- labeling costs amounted to \$0.0214 per pound of beef sold
- management costs totaled \$0.0044 per pound of beef sold
- costs for additional store space totaled \$0.0007 per pound of beef sold
- costs for additional refrigeration due to additional SKU's (Stock Keeping Units) amounted to \$0.0003 per pound of beef sold
- audit and verification costs were \$0.0074 per pound of beef sold
- other incremental costs totaled \$0.0200 per pound of beef sold
- costs for additional warehousing amounted to \$0.0114 per pound of beef sold
- costs for additional cooler space for product segregation were \$0.000 per pound of beef sold
- costs for additional store space totaled \$0.000 per pound of beef sold
- costs for additional equipment amounted to \$0.000 per pound of beef sold
- other capital costs totaled \$0.000 per pound of beef sold.

Given these results, the total weighted average costs (both incremental and capital) for retail chain stores and distributors is \$0.0833 per pound of beef sold. Given the fact that 18,892,400,000 pounds of beef were consumed in 2003 in the United States, and the fact that approximately 52 percent of that total pounds was from Retail Grocery Outlets, the

Table 4-1. Weighted Average Incremental and Capital Cost Estimates for Retail Chain Stores and Distributors

Category of Incremental Costs	Weighted Average Costs Estimates (dollars and/or cents per pound of beef sold)
Labor Costs	\$0.0098 per pound
Wrapping and Processing Costs	\$0.0029 per pound
Purchasing Costs	\$0.0050 per pound
Management Costs	\$0.0214 per pound
Labeling Costs	\$0.0044 per pound
Additional Store Space Costs	\$0.0007 per pound
Additional Refrigeration Costs (due to the additional Stock Keeping Units)	\$0.0003 per pound
Audit and Verification Costs	\$0.0074 per pound
Other Costs (please define specific area of costs with corresponding values)	\$0.0200 per pound
Total Incremental Costs	\$0.0719 per pound
<hr/>	
Category of Capital Costs	Weighted Average Costs Estimates (dollars and/or cents per pound of beef sold)
Additional Warehousing Costs	\$0.0114 per pound
Additional Cooler Space Costs	\$0.0000 per pound
Additional Store Facilities Costs	\$0.0000 per pound
Additional Equipment Costs	\$0.0000 per pound
Other Costs (please define specific area of costs with corresponding value)	\$0.0000 per pound
Total Capital Costs	\$0.0114 per pound
<hr/>	
Total Costs for Retail Chain Stores and Distributors	\$0.0833 per pound

actual total pounds of beef consumed from Retail Outlets is 9,824,048,000 pounds of beef, the results of the total cost of COOL to the retail industry is \$818 million dollars.

Findings Related to Research Question Four

The intent of this research question was to determine or identify what form of documentation, verification and auditing the retail chain stores and distributors will require from meat packers, processors and other suppliers.

- For documentation purposes, the results were as follows:

- record keeping and labeling
- tracking from cow to delivery
- case identification barcoding

- For verification purposes, the results (responses) were as follows:

- Email or CD Rom
- traceability from cow to delivery
- shipping documents with proof of delivery

- For auditing purposes, the resulting responses of the survey were as follows:

- two years of record keeping
- yearly audits for compliance
- weekly shipping reports by country of origin in electronic format

Findings Related to Research Question Four

This research question was developed to determine what percent of the company's current total line of beef products handled and sold are case-ready products and whether or not this percentage will change when country-of-origin labeling

regulations are implemented. The results of this question are reported in Table 4-2. The survey respondents estimated that 10.17 percent of their current total line of beef products handled and sold is case-ready products. Furthermore, of the three retail chain stores and distributors who responded to the questionnaire survey, two indicated an increase in the percentage of case-ready products and one indicated a decrease in the case-ready products when COOL regulations are implemented. Overall the results show an increase of 10.00 percent in case-ready productivity as a result of implementing COOL. In total, 20.17 percent of the industry's current total line of beef products handled and sold are case-ready product.

Findings Related to Research Question Five

This research question was developed to identify the operational labeling procedures or practices for beef products for the individual retail chain stores or distributors. When asked if the company's plan included labeling the products themselves or having the packers, processors, or other suppliers label the beef products, they all intended to label the products themselves. Many have assumed that these responses would temper earlier estimates.

Survey Results for Meat Packers and Processors

Findings Related to Research Question One

Similar the retailer survey, this research question was to determine whether or not the particular meat packer or processor would handle beef products other than those born, raised, and slaughtered in the United States and the conditions in which they would

Table 4-2. Case-ready Productivity Distribution and Percentage Changes for Retail Chain Stores and Distributors

Weighted Average Percent of current total line of beef products handled that are case-ready products.	10.1714 %
Expected weighted average percent change in case-ready products handled when Country-of-Origin Labeling regulations are implemented. (Increase and/or decrease)	Increase of 10.00 %

handle foreign beef products in their retail store. This research question was designed to examine the product distribution of an individual company by determining whether the company would handle foreign beef products, domestic beef products or a combination of both. The results of this question indicate that five of the meat packers and processors who responded to the survey would handle beef products other than products born, raised, and slaughtered in the United States. Three of the meat packers and processors would not handle beef products other than products born, raised and slaughtered in the United States.

The conditions under which the responding meat packer or processor would handle foreign beef products are listed as follows:

- Applies to any cattle that are born in Canada, raised in the U.S. and slaughtered in the U.S. We slaughter cows and bulls and there will be a number of older animals that are without any documentation of where they were born. We will have to segregate all these carcasses.
- Some of the feedlots we buy cattle from will probably buy some of their feeder calves from Mexico. This would make these cattle fall into the “Born in Mexico” category. It would still make much more sense if “Born” was removed from the equation and “slaughtered” was the only factor necessary to track.
- Live cattle from Canada and Mexico kept separate in pens and coolers. Live cattle without proof of born and raised kept separate in pens and coolers. All above cattle deboned separately depending on end user – retail or fast food.

- If cannot prove the animal is/was domestic only as it depends on how strict the law is and how strict the burden of proof is. Could slaughter documented domestic only at beginning of shift and all others at end of shift.

Findings Related to Research Question Two

This question was designed to determine what additional marketing and marginal production costs would be needed to change or incorporate the necessary new management, operational and production practices within the company in order to comply with the new COOL regulations and requirements. For the purpose of understanding the effects of COOL, the categories of incremental and capital costs were further separated to contain various operational, production and management costs. The results of this question are reported in Table 4-3. The results of this question estimated the additional incremental and capital costs of the industry to be as follows:

- labor costs amounted to \$0.93 per head
- wrapping and processing costs totaled \$7.22 per head
- labeling costs were \$4.38 per head
- management costs amounted to \$0.04 per head
- procurement costs totaled \$0.44 per head
- audit and verification costs totaled \$0.04 per head
- other incremental costs amounted to \$0.02 per head
- costs for additional warehousing amounted to \$1.11 per head
- costs for additional cooler space for product segregation were \$2.75 per head
- costs for additional store equipment totaled \$0.06 per head

Table 4-3. Weighted Average Incremental and Capital Cost Estimates for Meat Packers and Processors

Category of Incremental Costs	Weighted Average Costs Estimates (dollars per head of cattle slaughtered or processed annually)
Labor Costs	\$0.93 per head
Wrapping and Processing Costs	\$7.22 per head
Labeling Costs	\$4.38 per head
Management Costs	\$0.04 per head
Procurement Costs	\$0.44 per head
Audit and Verification Costs	\$0.04 per head
Other Costs (please define specific area of costs with corresponding values)	\$0.02 per head
<hr/>	
Total Incremental Costs	\$13.07 per head
<hr/>	
Category of Capital Costs	Weighted Average Costs Estimates (dollars per head of cattle slaughter or processed annually)
Additional Warehousing Costs	\$1.11 per head
Additional Cooler Space Costs	\$2.75 per head
Additional Equipment Costs	\$0.06 per head
Other Costs (please define specific area of costs with corresponding values)	\$0.00 per head
<hr/>	
Total Capital Costs	\$3.92 per head
<hr/>	
Total Costs for Meat Packers and Processors	\$16.99 per head
<hr/>	

- other capital costs amounted to \$0.00 per head

Given these results, the total weighted average costs (both incremental and capital) for meat packers and processors is \$16.99 per head of cattle slaughtered or processed.

Given the fact that 35,494,000 head of cattle were slaughtered and/or processed in 2003 in the United States, the results of the total cost of COOL to the meat packing/processing industry is \$603 million dollars.

Findings Related to Research Question Three

This research question was designed to identify whether or not companies will respond to COOL by differentiating their products to exclude foreign beef and cattle by designating certain company plants to handle only foreign beef products, only domestic beef products, or a combination. Five of the meat packers or processors who responded to the questionnaire survey would handle both foreign and domestic beef products in all of their company plants and three of the meat packers or processors would handle only domestic beef products in their company plants.

Findings Related to Research Question Four

This research question was developed to determine what percentage of the company's annual total number of head of cattle slaughtered or processed is fed cattle, cull/cutter/canner cattle, or dairy cattle and which plants, if the company operated more than one plant, would slaughter or process what category of cattle. The results of this question are reported in Table 4-4. The results of this question show, on a weighted average basis, that fed cattle make up 59.19 percent of the annual total, cull/cutter/canner cattle make up 30.72 percent of the annual total, and dairy cattle make up 10.09 percent

Table 4-4. Weighted Average Percentages of Cattle Slaughtered and/or Processed by Meat Packers and Processors

Cattle Categories	Weighted Average % of Yearly Total Processed
- Fed Cattle	59.19 %
- Cull/Cutter/Canner Cattle	30.72 %
- Dairy Cattle	10.09 %

of the annual total of cattle slaughtered or processed. Furthermore, the results showed the companies that operated more than one plant would slaughter or process the same percentages of each of the categories of cattle for each individual plant.

Findings Related to Research Question Five

The intent of this research question was to determine or identify what form of documentation, verification and auditing the meat packers and processors will require from feedlots, stockers/backgrounders and other suppliers.

- For documentation purposes, the results indicated companies would require:

- affidavit and company issued ID's
- health and feed records
- certified papers that are deemed acceptable by government mandates
- still in the process of developing
- whatever is required

- For verification purposes, the results (responses) of the survey indicated:

- company records
- health and feed records
- certified papers that are deemed acceptable by government mandates
- still in the process of developing
- whatever is required

- For auditing purposes, the resulting responses of the survey indicated:

- company records
- health and feed records

- certified papers that are deemed acceptable by government mandates
- still in the process of developing
- whatever is required.

Findings Related to Research Question Six

This research question was designed to determine what percent of the company's record keeping time was going to be spent on COOL and what the added total annual cost would be to implement this record keeping system as a result of complying with country-of-origin labeling regulations. The results of this question are recorded in Table 4-5. The respondents indicated that 15.31 percent of a company's time schedule will be spent on record keeping for compliance with COOL regulations. Furthermore, the average total annual costs added to a company's record keeping operational plan are \$59,008 dollars.

Findings Related to Research Question Seven

This research question was designed to identify the various marketing channels or venues where the beef products would be sold or distributed. In other words, the intent was to estimate the percentages of the total annual production of beef products that were marketed to HRI, retail grocery outlets and other markets. The results of this research question are reported in Table 4-6. The results of this question show that, on average, 34.73 percent of the total production is marketed to HRI, 48.11 percent of the total production is marketed to retail grocery outlets, and 17.16 percent of the total production is marketed to other various markets.

Table 4-5. Weighted Average Percentages and Added Costs Associated with Record Keeping Time Spent on Country-of-Origin Labeling for Meat Packers and Processors

Percent of Record Keeping Time Spent on Country-of-Origin Labeling	15.31 %
Added Total Annual Cost for Record Keeping as a Result of Country-of-Origin Labeling	\$59,007.80

Table 4-6. Weighted Average Percentages of Total Annual Production That Is Marketed to Hotel Restaurant Institutes, Retail Grocery Outlets or Other Markets

Market Distribution Channels	Weighted average percent of total annual production
- Hotel Restaurant Institutes	34.73 %
- Retail Grocery Outlets	48.11 %
- Other Markets	17.16 %

Findings Related to Research Question Eight

The intent of this research question was to determine if the meat packers or processors plan to designate specific company plants, production runs or production lines to process or handle foreign beef products where COOL requirements do not apply. The results of this research question are reported in Table 4-7. Three of the responding meat packers or processors indicated they would designate specific plants, production runs, or production lines in order to segregate products for the various markets when processing or handling domestic and foreign beef products. Five of the meat packers or processors would not designate specific plants, production runs, or production lines to process or handle domestic and foreign beef products. The results show that, on average, the total annual added costs for the meat packer or processor to designate specific fabrication or processing practices for the various market channels is \$52,222 dollars

Findings Related to Research Question Nine

This research question was to determine what percent of the company's current total line of beef products handled and sold are case-ready products and whether or not this percentage will change when country-of-origin labeling regulations are implemented. The results of this question are reported in Table 4-8. The survey results indicate that 8.804 percent of the responding meat packers and processors current total line of beef products handled and sold are case-ready products. Of the eight meat packers and processors who responded to the questionnaire survey, three indicated an increase in the percentage of case-ready products, two indicated a decrease in the case-

Table 4-7. Weighted Average Total Annual Cost Estimate for Designating Specific Plants, Production Runs, or Production Lines for Various Market Distributions

Weighted Average Cost of Designating Specific Plants, Production Runs or Production Lines for Various Markets	\$52, 221.64
------------------------------------------------------------------------------------------------------------------	--------------

Table 4-8. Case-ready Productivity Distribution and Percentage Changes for Meat Packers and Processors

Weighted Average Percent of current total line of beef products handled that are case-ready products.	8.80 %
Expected weighted average percent change in case-ready products handled when Country-of-Origin Labeling regulations are implemented. (Increase and/or decrease)	Increase of 3.5 %

ready products, and three indicated no change in the percentage of case-ready products as a result of COOL. Overall the results show an increase of 3.4 percent in case-ready products as a result of implementing COOL. As a result, 12.2 percent of the meat packers and processors current total line of beef products handled and sold will be case-ready products.

Survey Results for Cattle Feedlots

Findings Related to Research Question One

This research question was designed to examine the product distribution of an individual company by determining whether the feedlot would handle foreign cattle, domestic cattle, or a combination of both as a result of COOL. The results of this question show that three of the feedlots responding to the questionnaire would handle cattle other than cattle born and raised in the United States and six of the cattle feedlots would not handle cattle other than cattle born and raised in the United States.

Findings Related to Research Question Two

This question was designed to determine if the participating company was going to designate certain company feedlots to handle only foreign cattle, only domestic cattle, or if all feedlots would handle a combination of both. The results indicated all of the cattle feedlots who responded to the survey as handling foreign cattle, would handle foreign cattle in all of their company feedlots.

Findings Related to Research Question Three

The objective of this research question was to determine the additional incremental and capital costs that a company could incur from the implementation and

compliance of COOL regulations. In other words, this question was designed to determine what additional costs would result from new management, operational, and production practices that would be needed to comply with the new COOL regulations or requirements. Incremental and capital costs were further separated to contain various operational, production and management costs. The results of this question are reported in Table 4-9. Additional incremental and capital costs reported by the respondents were:

- labor costs amounted to \$2.52 per head
- animal identification costs totaled \$2.88 per head
- management costs amounted to \$1.67 per head
- procurement costs totaled \$0.76 per head
- audit and verification costs totaled \$1.31 per head
- Software and hardware costs totaled \$0.92 per head
- other incremental costs amounted to \$1.22 per head
- costs for additional pen space and facilities for livestock segregation amounted to \$0.00 per head
- costs for additional equipment totaled \$1.67 per head
- other capital costs amounted to \$0.00 per head.

Given these results, the total weighted average costs (both incremental and capital) for cattle feeders is \$12.95 per head of cattle fed. Given the fact that 27,567,000 head of fed cattle were marketed in 2003 in the United States, the results of the total cost of COOL to the cattle feeding industry is \$356.9 million dollars.

Table 4-9. Weighted Average Incremental and Capital Cost Estimates for Cattle Feedlots

Category of Incremental Costs	Weighted Average Costs Estimates (dollars per head of cattle fed annually)
Labor Costs	\$2.522 per head
Procurement/Purchasing Costs	\$0.759 per head
Animal Identification Costs	\$2.879 per head
Management Costs	\$1.668 per head
Audit and Verification Costs	\$1.310 per head
Software/Hardware Costs	\$0.921 per head
Other Costs (please define specific area of costs with corresponding values)	\$1.222 per head
Total Incremental Costs	\$11.281 per head
Category of Capital Costs	Weighted Average Costs Estimates (dollars per head of cattle fed annually)
Additional Pen Spacing Costs	\$0.000 per head
Additional Equipment Costs	\$1.668 per head
Other Costs (please define specific area of costs with corresponding values)	\$0.000 per head
Total Capital Costs	\$1.668 per head
Total Costs for Cattle Feedlots	\$12.949 per head

Survey Results for Cow-Calf Operators, Backgrounding Yards and Stockers

Findings Related to Research Question One

This research question was developed to determine whether or not the particular cow-calf operators, cattle backgrounders, or stockers would handle cattle other than cattle born in the United States. The results of this question show that all of the cow-calf operators, backgrounders and stockers who responded to the questionnaire survey would handle only domestic cattle and not cattle born outside the United States. About 1.1 million head of cattle are imported from Mexico. These are lightweight animals often said to go to ranchers or grass programs. These results suggest that producers will consider not buying Mexican stocker cattle. That may move more lightweight calves directly to feedlots.

Findings Related to Research Question Two

This research question was to identify which of the cow-calf operators, cattle stockers, or backgrounders would raise or background foreign cattle. Because none of the cattle producers, backgrounders or stockers who responded to the survey would handle foreign cattle, the need for segregation of livestock was unnecessary.

Findings Related to Research Question Three

The objective of this research question was designed to determine the additional incremental and capital costs that a company could incur as a result of COOL regulations. In other words, this question was designed to determine what additional costs would result from new management, operational and production practices that would be needed to comply with the new COOL regulations or requirements.

Incremental and capital costs were further separated to contain various operational, production and management costs. The results of this question are reported in Table 4-10. Additional incremental and capital costs reported by the respondents were:

- labor costs amounted to \$0.73 per head
- animal identification costs were \$2.00 per head
- management costs amounted to \$0.21 per head
- procurement costs totaled \$0.00 per head
- audit and verification costs totaled \$0.29 per head
- Software and hardware costs amounted to \$0.40 per head
- other incremental costs amounted to \$0.00 per head
- costs for additional pen space amounted to \$0.00 per head
- costs for additional equipment totaled \$0.27 per head
- other capital costs amounted to \$0.00 per head

Given these results, the total weighted average costs (both incremental and capital) for cattle backgrounders and stockers is \$3.90 per head of cattle produced and fed. Given the fact that 24,930,000 head of cattle or calves were placed in feedlots in 2003 in the United States, the results of the total cost of COOL to the cattle producer and backgrounding or stocker sector is \$97.1 million dollars.

Table 4-10. Weighted Average Incremental and Capital Cost Estimates for Cow-Calf Operators, Cattle BackGrounding Yards and Stockers

Category of Incremental Costs	Weighted Average Costs Estimates (dollars per head of cattle fed annually)
Labor Costs	\$0.729 per head
Procurement/Purchasing Costs	\$0.000 per head
Animal Identification Costs	\$2.000 per head
Management Costs	\$0.208 per head
Audit and Verification Costs	\$0.292 per head
Software/Hardware Costs	\$0.396 per head
Other Costs (please define specific area of costs with corresponding values)	\$0.000 per head
Total Incremental Costs	
	\$3.625 per head
Category of Capital Costs	Weighted Average Costs Estimates (dollars per head of cattle fed annually)
Additional Pen Spacing Costs	\$0.000 per head
Additional Equipment Costs	\$0.271 per head
Other Costs (please define specific area of costs with corresponding values)	\$0.000 per head
Total Capital Costs	
	\$0.271 per head
Total Costs for Cow-calf Operators, Cattle Backgrounders/Stockers \$3.896 per head	

Survey Results for the Beef Industry

Findings Related to the Incremental and Capital Costs for each Surveyed Sector

The results for this question are reported in Table 4-11. Using 2003 estimates for the total pounds of retail beef consumed, the total number of head of cattle slaughtered, the total number of head of fed cattle marketed, and the total number of head of calves placed in feedlots in the United States, the results of the incremental and capital cost estimates at each marketing level show the implementation of COOL will cost the retail industry \$818.3 million dollars, the meat packing and processing industry \$603 million dollars, the cattle feeding industry \$356.9 million dollars, and the cattle producer, backgrounding and stocking industry \$97.1 million dollars. Therefore, the total annual cost to the beef industry is \$1.875 billion dollars.

Short-run Price and Demand Changes as a Result of COOL Costs

Initially, short-run impacts in supply and demand, resulting from of the estimated COOL cost changes, are calculated using equations (11) to (26) assuming the original quantity for each marketing level is held constant. The purpose for holding the original quantity constant is to determine the magnitude or how much demand must increase at each marketing level in order to negate the increase in costs imposed by COOL in order to produce the same quantity that is being produced currently in the industry. Short-run percentage changes in supply, demand and prices are presented in Table 4-12. This research further diversifies production of the markets by determining whether or not there is a significant difference in the percentage change in the demand and price for heavy choice and heavy select carcasses, respectively. Beef prices

Table 4-11. Weighted Average Total Cost Estimates for the Beef Industry

Sector of the Beef Industry	Annual Total Costs
<i>Retail Chain Stores and Distributors</i>	
\$ 0.0833 per pound of beef sold * 9,824,048,000 pounds (Billion pounds of beef consumed in 2003)	\$ 818,343,198 million dollars
<i>Meat Packers and Processors</i>	
\$ 16.99 per head * 35,494,000 head (Million of head of cattle slaughtered in 2003)	\$ 603,043,060 million dollars
<i>Cattle Feedlots</i>	
\$ 12.949 per head * 27,567,000 head (Million head of fed cattle marketed in 2003)	\$ 356,965,083 million dollars
<i>Cattle Back Grounding Yards and Stockers</i>	
\$ 3.896 per head * 24,930,000 head (million head of calves placed in feedlots in 2003)	\$ 97,127,280 million dollars
Total Costs for the Beef Industry	\$1,875,478,621 billion dollars

Table 4-12. Percentage Changes in the Endogenous Variable for Each Market Level^a

Endogenous Variable	Short-Run Percentage Change from COOL Costs
Retail Beef Price (New Series)	2.44 %
Supply for Retail Beef (New Series)	-1.37 %
Demand for Retail Beef (New Series)	1.15 %
Retail Beef Price (Fresh Series)	2.72 %
Supply for Retail Beef (Fresh Series)	-1.53 %
Demand for Retail Beef (Fresh Series)	1.12 %
Wholesale Beef Price (Heavy Choice)	1.80 %
Supply for Wholesale Beef (Heavy Choice)	-0.70 %
Demand for Wholesale Beef (Heavy Choice)	0.78 %
Wholesale Beef Price (Heavy Select)	1.94 %
Supply for Wholesale Beef (Heavy Select)	-0.76 %
Demand for Wholesale Beef (Heavy Select)	0.71 %

Table 4-12. (continued)

Endogenous Variable	Short-Run Percentage Change from COOL Costs
Fed Cattle Price	1.40 %
Supply of Fed Cattle	-0.49 %
Demand for Fed Cattle	0.56 %
Feeder Cattle Price	0.62 %
Supply of Feeder Cattle	-0.17 %
Demand for Feeder Cattle	0.24 %

^aPercentage changes based upon five-year average (July, 1999 through June, 2004) quantities and prices for livestock and meat.

associated with the new series beef (heavy choice grade carcasses) are shown to increase by 2.44 percent, whereas the beef prices associated with the all fresh beef (heavy select grade carcasses) are shown to increase by 2.72 percent. The change between the heavy choice and heavy select beef cuts is 0.28 percent. Similar to the retail market, beef prices associated with the wholesale heavy choice carcasses are shown to increase by 1.80 percent and the beef prices associated with heavy select carcasses are shown to increase by 1.94 percent at the wholesale level. Therefore, there is a change in beef price of 0.14 percent between wholesale heavy choice and heavy select carcasses. As for whether or not these differences in beef prices at the retail and wholesale levels are significant remains a matter of opinion to the reader. In addition to the beef prices at the retail and wholesale levels, fed cattle prices are shown to increase by 1.40 percent and feeder cattle prices increase by 0.62 percent at the farm level.

The results of the model predict that a permanent increase of 1.15 percent in beef demand for heavy choice cuts and 1.12 percent in beef demand for heavy select cuts would be necessary for the present value of gains and losses in the retail production sector to be zero and thus, producers and consumers being no worse off. Furthermore, the results predict that a permanent increase of 0.78 percent in beef demand for heavy choice carcasses and 0.71 percent in beef demand for heavy select carcasses would be necessary for the present value of gains and losses in the wholesale production sectors to be zero. Similar to the explanations of the beef prices, whether or not the difference between choice and select beef demand is significant, remains in the eyes of the reader. Finally, for the fed and feeder cattle markets the results predict that a permanent increase

of 0.56 percent and 0.24 percent in demand for fed and feeder cattle, respectively, would be necessary for the present value of gains and losses to be zero. These results are theoretically consistent in that COOL-induced additional marketing and marginal production costs reduce derived retail supplies and derived demands.

Short-run Changes in Price and Quantity Under Circumstances of No Change in Demand and a Percentage Change in Demand

The short-run changes in prices and quantities, as viewed with no change in demand or a percentage change in demand, for the various market levels are contained in Table 4-13. The first column of Table 4-13 illustrates the short-run percentage changes in price and quantity at each market level with no change in consumer demand. The results of the study indicate, in the absence of consumer demand increases, that the new series retail beef price increases by 0.70 percent, the fresh series retail beef price increases by 0.92 percent, the price of wholesale choice beef carcasses increases by 0.48 percent, the price of wholesale select beef carcasses increases by 0.65 percent, the price of fed cattle increases by 0.40 percent, and the price of feeder cattle (producer) increases by 0.16 percent. In addition to the changes in prices, the results of the research show that with no change in demand the quantity of choice retail beef diminishes by 0.63 percent, the quantity of select retail beef diminishes by 0.64 percent, the quantity of choice wholesale beef decreases by 0.37 percent, the quantity of select wholesale beef decreases by 0.36 percent, the quantity of fed cattle diminishes by 0.26 percent, and the quantity of feeder cattle decreases by 0.10 percent. Theoretically, the results are consistent with basic economics, in that with only an upward (leftward) shift in the

Table 4-13. Percentage Changes in Price and Quantity at Various Demand Scenarios^a

Endogenous Variable	No Change in Demand	Short-Run Percentage Change in Demand
Retail New Series Beef Price	0.70 %	2.44 %
Retail New Series Beef Quantity	-0.63 %	0.00 %
Retail Fresh Series Beef Price	0.92 %	2.72 %
Retail Fresh Series Beef Quantity	-0.65 %	0.00 %
Wholesale Choice Beef Price	0.48 %	1.80 %
Wholesale Choice Beef Quantity	-0.37 %	0.00 %
Wholesale Select Beef Price	0.64 %	1.94 %
Wholesale Select Beef Quantity	-0.36 %	0.00 %
Fed Cattle (Slaughter) Price	0.40 %	1.40 %
Fed Cattle (Slaughter) Quantity	-0.26 %	0.00 %
Feeder Cattle (Producer) Price	0.16 %	0.62 %
Feeder Cattle (Producer) Quantity	-0.10 %	0.00 %

^aPercentage changes based upon five-year average (July, 1999 through June, 2004) quantities and prices for livestock and meat.

supply curve and no change in the demand curve, an increase in the price and a decrease in the quantity will be observed at each prior market level from the original equilibrium. Contrast to the findings where no change in demand was observed, the second column of Table 4-13 contains the changes in price and quantity for the calculated change in demand at each market level. Because the original quantity is being held constant for the various calculations and theoretical explanations of this study, the expected changes in quantity for each given market level, given a percentage change in demand, will equal zero. As for the change in prices at the various market levels, the results indicated a larger percent change in price as demand changed than was observed under the absence of consumer demand. At the retail level the change in beef prices increased by 2.44 percent and 2.72 percent for the new and fresh series, respectively. Further, at the wholesale level the change in beef prices increases by 1.80 percent for choice beef carcasses and 1.94 percent for select carcasses. Finally, the change in fed cattle prices increased by 1.40 percent and feeder cattle prices increased by 0.62 percent.

Impacts on Producer, Consumer and Total Economic Surplus

The short-run effects of the induced COOL costs on changes in producer, consumer, and total economic surplus, given no change or absence in demand, are calculated using equations (33), (34), and (35) while holding quantity constant. Short-run changes in producer surplus for each market level, consumer surplus at the retail level, and overall society surplus are contained in Table 4-14. The results of the model indicate that producers and consumers are worse off with no change in demand. The results show a decrease of \$544.6 to \$589.0 million in producer surplus the retail level, a

Table 4-14. Changes in Producer Surplus for Each Market Level, Consumer Surplus at the Retail Level, and Overall Social Welfare for Each Market Level^a

Industry Market Level	Short-Run Changes (No Change in Demand)	Short-Run Changes (% Change in Demand)
<u>Beef Producer Surplus</u>		
Retail Level (New Series)	\$-589,090,125.40	\$0.00
Retail Level (Fresh Series)	\$-544,573,512.50	\$0.00
Wholesale Level (Heavy Choice)	\$-436,631,514.60	\$0.00
Wholesale Level (Heavy Select)	\$-399,281,165.40	\$0.00
Slaughter (Fed Cattle) Level	\$-237,441,296.90	\$0.00
Farm (Feeder Cattle) Level	\$-70,333,882.30	\$0.00
Total Beef Industry	\$-1,251,629,857 or \$-1,333,496,819	\$0.00
<u>Total Economic Welfare</u>		
Retail Level	\$-827,317,608.00	\$0.00
Wholesale Level	\$-596,507,573.30	\$0.00
Slaughter (Fed Cattle) Level	\$-331,411,193.10	\$0.00
Farm (Feeder Cattle) Level	\$-95,338,825.20	\$0.00
Total Beef Industry	\$-1,799,759,356.00	\$0.00
Retail Beef Consumer Surplus (New)	\$-235,636,050.20	\$0.00
Retail Beef Consumer Surplus (Fresh)	\$-280,066,377.90	\$0.00

^aProducer, Consumer and Social Surplus is calculated relative to five-year average (July, 1999 through June, 2004) quantities and prices for livestock and meat.

decrease of \$399.6 to \$436.2 million in producer surplus at the wholesale level, a decrease of \$237.4 million in producer surplus at the fed cattle (slaughter) level, and a decrease of \$70.3 million at the farm level (feeder cattle). In addition, the results show a decrease of \$235.6 to \$280.0 million in consumer surplus at the retail level and an overall decrease in total economic welfare of \$827.3 million for the retail level, \$596.5 million for the wholesale level, \$331.4 million for the fed cattle level, and \$95.3 million at the farm level (feeder cattle).

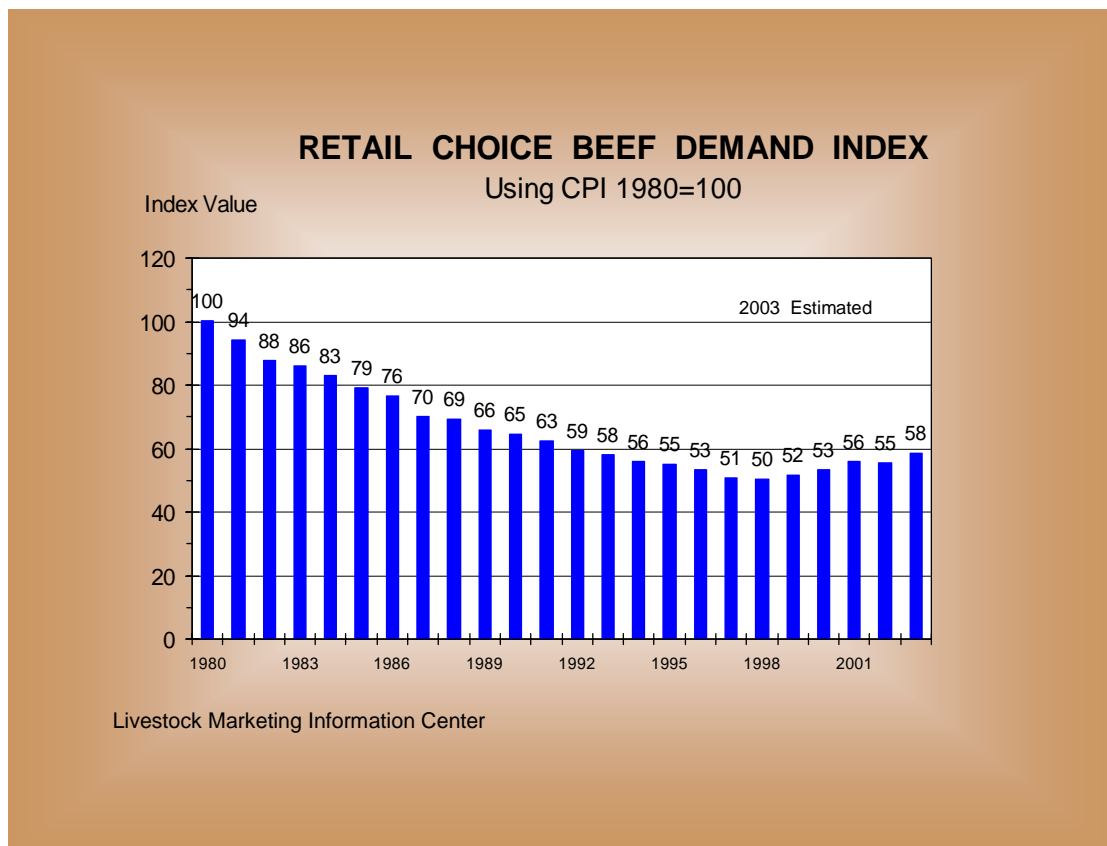
The short-run effects of the induced COOL costs on changes in producer, consumer, and total economic surplus, given a percentage increase in demand, are calculated using equations (36), (37), and (38) while holding quantity constant. Short-run changes in producer surplus at each market level, consumer surplus at the retail level, and overall total economic welfare are presented in Table 4-14. Contrary to the findings or results where no change in demand exists, percentage changes in demand at the various market levels will result in producers and consumers being unaffected from a welfare standpoint. At the retail level, an outward shift (increase) in demand by 1.15 percent or 1.12 percent will result in the producer and consumer surplus equaling zero. The same results hold for the wholesale, fed cattle (slaughter), and feeder cattle (producer) levels, where an increase in demand of 0.78 percent, 0.71 percent, 0.56 percent, and 0.24 percent resulted in the producer, consumer surplus remaining the same or equaling zero. In addition to the results showing that producers and consumers are not impacted by the changes in demand, the overall total economic surplus has a net value of zero.

Summary

The above results show that the implementation of COOL will impose large costs at each marketing level of the beef industry. No matter what level of costs the implementation of COOL will impose on the beef industry, one critical result from the analysis is that consumers' reaction to COOL will have a major impact on the welfare effects of the producer. If the implementation of COOL fails to increase consumer demand for domestically-produced beef products, then livestock producers lose producer surplus at each given market level and are worse off in the short-run.

For example, the results of this study show that consumer demand must increase by 1.15 percent at the retail level in order for the producer to be no worse off. Figure 4-1 is a beef demand index. The figure details the decline in beef demand over the 1980's – 1990's. It is interesting to note the increase during the last few years. A permanent increase of 1.15 percent in beef demand at the retail level for choice beef products is well within the range of recent demand changes and accessible from a feasibility standpoint. However, one important note that must be addressed is the relationship between the demand for beef at home (retail) and the demand for beef away from home (hotel, restaurant, etc.) and how this demand relates to the model. Lusk and Anderson best explained this theory by saying (2004), “the demand shock in this model is an aggregate shock representing total increase in demand for all cuts and for meat consumed at home and away from home, the latter of which is not included in the COOL

policy.” As mentioned by Brester (2004), “only 52 percent of beef volume is sold through retail outlets.” Thus, the 1.15 percent increase in beef demand for choice beef products would have to be generated by 52 percent of the beef market.



Source: Livestock Marketing Information Center

Figure 4-1. Retail choice beef demand index

This concept is important in theory as it relates to the consumers' willingness to pay for COOL (or the actual value of the label). The fact that only 52 percent of the beef market would have to generate the 1.15 percent increase in beef demand means the price the consumer will actually be paying for the beef products will be higher than originally thought. Thus, incorporating the idea that consumers will likely have to be more willing thought. Thus, incorporating the idea that consumers will likely have to be more willing to pay for domestically-produced beef products than previously thought of in order for producer to be no worse off.

CHAPTER V

SUMMARY AND CONCLUSIONS

Restatement of Problem

Previous research indicated a wide range of costs associated with COOL. Added costs include direct marginal costs of production for each individual firm in the industry and indirect costs (losses in market share, trade ramifications, etc.) associated with the implementation of mandatory COOL regulations. General assumptions suggest the increases in costs will be passed on to the consumer in the form of higher prices or, more likely, passed down the beef supply chain to the producer in the form of lower prices.

Two recent studies have shown estimated changes in producer and consumer surplus, but have not calculated how much demand for retail beef, wholesale beef, fed cattle, and feeder cattle must increase to offset the increases in costs resulting from implementation.

Restatement of Objectives

Two objectives existed for this study. The first objective of this study was to provide a full beef industry cost assessment for implementing COOL based on USDA's preliminary guidelines for COOL. The research sought to estimate the total marketing and production costs that would be imposed on retail chain stores and distributors, meat packers and processors, cattle feedlots, and cow-calf operators, cattle backgrounders or stockers as a result of the implementation of COOL.

The secondary objectives were:

- To determine the magnitude of increases in the demand for retail beef needed to negate the increased cost of implementing COOL.
- To determine the magnitude of increases in the demand for wholesale beef needed to negate the increased cost of implementing COOL.
- To determine the magnitude of increases in the demand for fed cattle needed to negate the increased cost of implementing COOL.

The increases in demand at the various market levels was used to estimate or examine the changes in producer, consumer and overall social welfare (surplus) that would occur from the implementation of COOL.

Results

Financial and production data and information, collected from retail chain stores and distributors, meat packers/processors, cattle feeders, and cow-calf operator, cattle stockers and backgrounders, was used to estimate the total added costs imposed on each beef industry sector. The results of the research indicate COOL will cost the retail industry \$818.3 million, the meat packing and processing industry \$603.0 million, the cattle feeding industry \$356.9 million, and the cattle producer, backgrounding or stocking industry \$97.1 million. Therefore, the total annual cost to the beef industry is \$1.875 billion.

The weighted average costs estimated for each marketing level were used to determine the marketing and social welfare effects of implementing COOL. The percentage changes in price and demand at the retail, wholesale and fed cattle (slaughter) levels were estimated using an equilibrium displacement model. Previously published

supply and demand elasticities for retail beef, wholesale beef, fed cattle, and feeder cattle were utilized. The results of the EDM model show that the implementation of COOL will increase the price of retail beef by 2.44 percent to 2.72 percent, increase the price of wholesale beef by 1.79 percent to 1.94 percent, increase the price of fed cattle and feeder cattle by 1.40 percent and 0.62 percent, respectively. In addition to determining the percentage changes in the price for retail beef, wholesale beef and fed cattle, the results of the model show that a permanent increase of 1.12 percent to 1.15 percent in the demand for retail beef, a 0.71 percent to 0.78 percent increase in the demand for wholesale beef, a 0.56 percent increase in the demand for fed cattle, and a 0.24 percent increase in the demand for feeder cattle is needed to negate the estimated costs of implementing COOL.

The changes in price and demand at the various market levels were used to calculate the changes in producer surplus at the various market levels, consumer surplus at the retail level and overall total economic welfare at each market level. The results show that with no change in demand the producer surplus at the retail level decreases by \$589.1 to \$544.6 million, the producer surplus at the wholesale level decreases by \$399.3 to \$436.6 million, the producer surplus at the fed cattle (slaughter) level decreases by \$237.4 million, and for the feeder cattle (producer) level the producer surplus decreases by \$70.3 million. Additional is the fact that with no change in demand, consumer surplus decreases by \$235.6 to \$280.1 million at the retail level and total economic surplus diminishes by \$1.25 to \$1.33 billion for the beef industry. Contrary to the results where no demand change exists, necessary percentage changes in

demand at the various market levels will result in producers and consumers being unaffected from a welfare standpoint. That is to say, that because the original quantity is being held constant and the magnitude in the shifts of the supply and demand price intercepts are equal, the producer, consumer and total economic surplus will be the same as before or equal zero. At the retail level, an outward shift (increase) in demand by 1.15 percent or 1.12 percent will result in the producer and consumer surplus equaling zero. The same results hold for the wholesale, fed cattle (slaughter), and feeder cattle (producer) levels, where an increase in demand of 0.78 percent, 0.71 percent, 0.56 percent, and 0.24 percent resulted in the producer, consumer surplus remaining the same or equaling zero. In addition to the results showing that producers and consumers are not impacted by the changes in demand, the overall total economic surplus would have a net value of zero.

Conclusions and Implications

The conclusions that can be drawn from this study revolve around two main themes. The first is that the implementation of mandatory COOL regulations will assess some level of cost burden on all market levels of the beef industry. The estimates made using the questionnaire surveys show or support the idea (hypothesis) that COOL will impose increases in both marketing and marginal production (incremental and capital) costs to each supply sector of the industry, which in turn will result in major changes in company productivity and market channel distributions. Without benefits outweighing the additional costs; cow-calf producers, stockers/backgrounders, feeders,

packers/processors, and retailers will likely suffer through diminished production, losses in market share and decreased net returns or profits.

The second implication of this research is the market and social welfare effects that will occur to all participants of the beef industry as a result of the implementation of mandatory COOL. The forecasts made using the model show that if COOL-induced demand increases do not occur, then all sectors of the beef industry will lose producer surplus, the retail sector will lose consumer surplus, and there will be a loss in total economic welfare. This suggests that in order for COOL to be a feasible policy and marketing tool for the beef industry, consumer demand will have to increase at a rate necessary to negate or offset the added costs of implementation and compliance such that producers and consumers are no worse off.

Two similar studies have been published by Brester, Marsh and Atwood (2004) and Lusk and Anderson (2004) examining the market, social welfare and revenue effects of COOL on the beef industry. These studies examined the revenue changes and producer surplus and consumer surplus for different cost scenarios. This particular study differs in two areas. First, the cost estimates and productivity changes used in the model calculations were collected from surveys administered to various industry representatives. Secondly, this study examines market and social welfare effects under the assumption that the original quantity is held constant. This study estimates how much beef demand must increase at each market level in order for producers and consumers to be no worse off. Other studies examine the magnitude of changes in quantity and prices that will occur given different scenarios.

Limitations

The limitations of the study are two-fold. The first limitation centers on the data used for the study. It is possible that the data set for the retail and meat packing market levels is not large enough to capture a true accurate estimate of the added marketing and marginal production costs that will be assessed by the implementation of COOL. Receiving a higher return rate on the questionnaire surveys and including financial and production data from more respondents than what was reported could give the study more depth and a higher accuracy as it pertains to cost estimates and productivity changes within the industry.

The second limitation is that of the elasticities. The possibility that the assumed own-price supply elasticities for retail beef products and wholesale beef carcasses causes a somewhat cautious approach to having comparison conclusions between the choice and select grade price series results from this study.

Future Research Needs

The cost estimates and production changes found in this study are vital in understanding the impact of COOL. Further research could include increasing the data sample by surveying a larger number of companies within the corresponding sector or market level. By doing so, the results will provide a more precise and accurate assessment of the cost estimates and production changes that will occur within each sector of the industry as a result of the implementation of mandatory COOL. However, this would be difficult due to the highly political nature of the issue.

A secondary approach to increasing the accuracy of the costs estimates and productivity differences could be to restructure the format of the questions on the questionnaire survey for each given market level in order to increase the return rates by the respondents. Furthermore, another possibility may be to determine an alternative solution for collecting the financial and production data from the various companies within the beef industry.

The differences in the market and social welfare effects of COOL that exist between the choice and select grade price series at the retail and wholesale sectors are intriguing and warrants more research. Such research could include actually estimating, rather than assuming, supply and demand own-price elasticities for both the heavy and light weight choice and select prices for retail beef products and wholesale beef carcasses. A study detailing the differences found between the choice and select grades and whether or not the margins are significant could be beneficial and provide industry officials with necessary data for feasibility and profitability comparisons.

The issue of the consumer's willingness to pay for COOL and the relationship to advertising and checkoff dollars is interesting and deserves future research. Future research could include determining the value consumer would be willing to pay for country-of-origin labeling and calculating whether it would be feasible from an advertising standpoint. In other words, deciding whether or not consumer's value of the label (or willingness to pay for COOL) would outweigh or pay for the additional advertising costs or checkoff dollars that could be necessary to pay for COOL.

REFERENCES

- American Meat Institute (AMI). *Costs Associated With Implementing Mandatory Country-of-Origin Labeling*. Available at <http://www.meatami.com>. Accessed on June 23, 2003.
- Azzam, A.M., and J.R. Schroeter. "The Tradeoff Between Oligopsony Power and Cost Efficiency in Horizontal Consolidation: An Example from Beef Packing." *American Journal of Agricultural Economics* 77(1995):825-36.
- Babbie, E. *The Practice of Social Research*, 6th ed. Belmont, CA: Wadsworth Publishing Company, 1992.
- Brester, G.W., and J.M. Marsh. "Distributional Impacts of Country-of-Origin Labeling in the U.S. Meat Industry." *Journal of Agriculture and Resource Economics* 29(2004):206-227.
- Brester, G.W. and V.H. Smith. "Country-of-Origin Labeling in the Beef Industry: Potential Economic Benefits and Costs." Briefing Paper No. 7. Trade Research Center, Department of Agricultural Economics and Economics, Montana State University, Bozeman. April, 1999.
- Collins, K. "A Statement of Dr. Keith Collins before the House Committee on Agriculture." Washington DC: 26 June 2003.
- Davis, E.E. "Total Estimated Costs of Country of Origin Labeling Regulations in the Beef Industry." Working Paper. Department of Agricultural Economics, Texas A&M University, College Station. March, 2003.
- Davis, G.C. and M.C. Espinoza. "A Unified Approach to Sensitivity Analysis in Equilibrium Displacement Models." *American Journal of Agricultural Economics* 80 (1998):868-879.
- Dilman, D.A. *Mail and Telephone Surveys: The Total Design Method*, New York: John Wiley and Sons Inc. 1978.
- Golan, E., F. Kuchler, and L. Mitchell. "Economics of Food Labeling." Agricultural Economic Report No. 793. Washington DC: Economic Research Service, U.S. Department of Agriculture, December, 2000.
- Ikenson, D. "Uncool Rules: Second Thoughts on Mandatory Country of Origin Labeling." Free Trade Bulletin No 7. Cato Institute's Center for Trade Policy Studies. January, 2004.

- Kay, S. "COOL Means ID Trail From Ranch to Retail." *Cattle Buyers Weekly* (October 2002):1-3.
- Lambert, C. "A Statement of Dr. Charles "Chuck" Lambert before the House Committee on Agriculture." Washington DC: 26 June 2003.
- Leftwich, R.H. *The Price System and Resource Allocation*, 3rd ed. New York: Holt, Rinehart and Winston, 1966.
- Livestock Marketing Information Center. Various livestock production and slaughter data, 2004. Lakewood, CO. Available at <http://www.lmic.info/>.
- Lusk, J.L., and J.D. Anderson. "Effects of Country-of-Origin Labeling on Meat Producers and Consumers." *Journal of Agriculture and Resource Economics*. 29(2004):185-205.
- Marsh, T., J. Mintert, and T. Schroeder. "Focus on Beef Demand." Available at <http://ag.arizona.edu/arec/wemc/cattlemarket/Focusonbeefdemand.pdf>. Accessed January 29, 2004.
- Matthews Jr., K.H., W.F. Hahn, K.E. Nelson, L.A. Duewer, and R.A. Gustafson. "U.S. Beef Industry: Cattle Cycles, Price Spreads, and Packer Concentration." U.S. Department of Agriculture, Economic Research Service, Technical Bulletin 1874, April, 1999.
- McGuigan, J.R., R.C. Moyer, and F.H. Harris. *Managerial Economics: Applications, Strategy, and Tactics*, 8th ed. Cincinnati, Ohio: South-Western College Publishing, 1999.
- Morrison Paul, C. "Market and Cost Structure in the U.S. Beef Packing Industry: a Plant-Level Analysis." *American Journal Agricultural Economics* 83(2001):64-76.
- Oligopoly Watch. "Big Beef." Available at <http://www.oligopolywatch.com/2003/10/04.html>. Accessed June 3, 2004.
- Peck, C. "Defining Demand." *Beef*, September 2000, pp. 1-3.
- Plain, R. and G. Grimes. "Benefits of COOL to the Cattle Industry." AEW 2003-2. Department of Agricultural Economics. University of Missouri, Columbia, MO: May, 2003.
- Smith, R. "COOL May Change Marketplace for the Worst." *Feedstuffs* 49,74. December 2002, pp.1-2.

- Sparks Companies, Inc. "COOL Cost Assessment." Prepared by the Sparks/CBW Consortium, Memphis, TN, April, 2003.
- Tomek, W.G. and K.L. Robinson. *Agricultural Product Prices*, 3rd ed. Ithaca, NY: Cornell University Press, 1990.
- Umberger, W.J., D.M. Feuz, C.R. Calkins, and B.M. Stiz. "Country-of-Origin Labeling of Beef Products: U.S. Consumers' Perceptions." Paper presented at the 2003 Food and Agricultural Marketing Policy Section (FAMPS) Conference, Washington, DC, March, 2003.
- United States Department of Agriculture, Agricultural Marketing Service (USDA, AMS). "Notice of Request for Emergency Approval of a New Information Collection." *Federal Register* 67, 255(November 2002):70205-70206.
- United States Department of Agriculture, Agricultural Marketing Service (USDA, AMS). "Mandatory Country of Origin Labeling of Beef, Lamb, Pork, Fish, Perishable Agricultural Commodities, and Peanuts; Proposed Rule." *Federal Register* 68, 210(October 2003), Available at www.ams.usda.gov/cool/Is0304.pdf.
- United States Department of Agriculture, Food Safety and Inspection Service (USDA, FSIS). "Mandatory Country of Origin Labeling of Imported Fresh Muscle Cuts of Beef and Lamb." January 2000. Available at <http://www.fsis.usda.gov/oa/congress/cool.htm>, accessed August 20, 2003.
- United States Department of Agriculture, Grain Inspection and Packers Stockyards Association (USDA, GIPSA). *Concentration in the Red Meat Packing Industry*, Washington, DC: United States Department of Agriculture, February, 1996.
- U.S. General Accounting Office (GAO/RCED). Report to the Chairman, Subcommittee on Livestock and Horticulture, Committee on Agriculture, and House of Representatives. "*Beef and Lamb: Implications of Labeling by Country of Origin.*" Publish number GAO/RCED-00-44. Washington DC, January 2000.
- VanSickle, J., R. McEowen, C.R. Taylor, N. Harl, and J. Conner. "Country of Origin Labeling: A Legal and Economic Analysis." International Agricultural Trade and Policy Center Paper PBTC 03-5, University of Florida, May, 2003.
- Waldron, R. "Module 3: Market Structures." Class Lecture Notes. Department of Economics, University of South Dakota, Vermillion. June, 2004. Available at <http://www.usd.edu/~rwaldron/m3a2.html>. Accessed June 3, 2004.
- Ward, C.E. "Packer Concentration and Its Impacts." Oklahoma Cooperative Extension Service. WF-554, Oklahoma State University, 2001.

- Ward, C.E. "A Review of Causes for and Consequences of Economic Concentration in the U.S. Meatpacking Industry." *Current* 3. (2002):1-28.
- Ward, C.E., S.R. Koontz, and T.C. Schroeder. "Impacts from Captive Supplies on Fed Cattle Transaction Prices." *Journal of Agricultural and Resource Economics* 23(1998):494-514.
- Ward, R.W., and T. Stevens. "Pricing Linkages in the Supply Chain: the Case for Structural Adjustments in the Beef Industry." *American Journal of Agricultural Economics* 82(2000):1112-1122.
- Wohlgenant, M.K. "Demand for Farm Output in a Complete System of Demand Functions." *American Journal of Agricultural Economics*. 71(1989):241-252.

APPENDIX A
FEDERAL REGISTER PROPOSED RULE OF COUNTRY-OF-ORIGIN
LABELING

[Federal Register: October 30, 2003 (Volume 68, Number 210)]
[Proposed Rules]
[Page 61943-61985]
From the Federal Register Online via GPO Access
[wais.access.gpo.gov]
[DOCID:fr30oc03-34]

[[Page 61943]]

Part IV

Department of Agriculture

Agricultural Marketing Service

7 CFR Part 60

Mandatory Country of Origin Labeling of Beef, Lamb, Pork, Fish,
Perishable Agricultural Commodities, and Peanuts; Proposed Rule

[[Page 61944]]

DEPARTMENT OF AGRICULTURE

Agricultural Marketing Service

7 CFR Part 60

[No. LS-03-04]

RIN 0581-AC26

Mandatory Country of Origin Labeling of Beef, Lamb, Pork, Fish,
Perishable Agricultural Commodities, and Peanuts

AGENCY: Agricultural Marketing Service, USDA.

ACTION: Proposed rule.

SUMMARY: The Farm Security and Rural Investment Act of 2002 (Farm Bill) and the 2002 Supplemental Appropriations Act (Appropriations Act) amended the Agricultural Marketing Act of 1946 (Act) to require retailers to notify their customers of the country of origin of covered commodities beginning September 30, 2004. The law also requires the Department of Agriculture (USDA) to issue regulations to implement a mandatory country of origin labeling (COOL) program not later than September 30, 2004. Covered commodities include muscle cuts of beef (including veal), lamb, and pork; ground beef, ground lamb, and ground pork; farm-raised fish and shellfish; wild fish and shellfish; perishable agricultural commodities (fresh and frozen fruits and vegetables); and peanuts. This proposed rule contains definitions, the requirements for consumer notification and product marking, and the recordkeeping responsibilities of both retailers and suppliers.

DATES: Comments must be submitted on or before December 29, 2003 to be assured of consideration.

ADDRESSES: Send written comments to: Country of Origin Labeling Program, Room 2092-S; Agricultural Marketing Service (AMS), USDA; STOP 0249; 1400 Independence Avenue, SW.; Washington, DC 20250-0249, or by facsimile to 202/720-3499, or by e-mail to cool@usda.gov. State that your comments refer to Docket No. LS-

03-04. Comments received will be posted to the AMS Web site at: <http://frwebgate.access.gpo.gov/cgi-bin/leaving.cgi?from=leavingFR.html&log=linklog&to=http://www.ams.usda.gov/cool/>. Comments sent to the above location that specifically pertain to the information collection and recordkeeping requirements of this action should also be sent to the Desk Officer for Agriculture, Office of Information and Regulatory Affairs, Office of Management and Budget (OMB), New Executive Office Building, 725 17th Street, NW., Room 725, Washington, DC 20503.

FOR FURTHER INFORMATION CONTACT: Robert Keeney, Deputy Administrator, Fruit and Vegetable Programs, AMS, USDA, by telephone on 202/720-4722, or via e-mail at: robert.keeney@usda.gov; or William Sessions, Associate Deputy Administrator, Livestock and Seed Program, AMS, USDA, by telephone on 202/720-5705, or via e-mail at: william.sessions@usda.gov.

SUPPLEMENTARY INFORMATION:

Questions and Answers Concerning This Proposed Rule

What Are the General Requirements of Country of Origin Labeling?

The Farm Bill (Public Law 107-171) and the Appropriations Act (Public Law 107-206) amended the Act (7 U.S.C. 1621 et seq.) to require retailers to notify their customers of the country of origin of beef (including veal), lamb, pork, fish, perishable agricultural commodities, and peanuts beginning September 30, 2004. The law also requires USDA to issue regulations to implement this program no later than September 30, 2004. The law defines the terms ``retailer'' and ``perishable agricultural commodity'' as having the meanings given those terms in the Perishable Agricultural Commodities Act of 1930 (PACA)(7 U.S.C. 499 et seq.). Food service establishments are specifically excluded. In addition, the law specifically outlines the criteria a covered commodity must meet to bear a ``United States country of origin'' label. Why Can't USDA Track Only Imported Products and Consider All Other Products To Be of ``U.S. Origin?''

The COOL provision of the Farm Bill applies to all covered commodities. Moreover, the law specifically identifies the criteria that products of U.S. origin must meet. For beef, pork, and lamb, for example, U.S. origin can only be claimed if derived from animals that are born, raised, and slaughtered in the United States. The law further states that ``Any person engaged in the business of supplying a covered commodity to a

retailer shall provide information to the retailer indicating the country of origin of the covered commodity.' And, the law does not provide authority to control the movement of product, imported or domestic. In fact, the use of a mandatory identification system that would be required to track controlled product through the entire chain of commerce is specifically prohibited. The Internal Revenue Service Essentially Uses Self-Certification, Backed Up by Selective Audits, for Those of Us Who File Income Taxes. Why Couldn't Self-Certification Work for COOL?

The COOL law requires firms or individuals that supply covered commodities to retailers to provide information indicating the product's country of origin. This information must address the production steps included in the origin claim (i.e., born, raised, and slaughtered or produced). Self-certification documents or affidavits may play a role in assuring that auditable records are available throughout the chain of custody, but the auditable records must themselves also be available to ensure credibility of country of origin labeling claims. With a Number of Covered Commodities, Particularly Produce Items, Already Labeled as to Country of Origin at Retail, How Big a Burden Will Mandatory Country of Origin Labeling Actually Cause?

It is certainly true that some covered commodities, particularly produce items, are already being labeled as to country of origin at retail establishments. It is also the case that existing Federal law and regulation (e.g., PACA) help ensure the truthfulness of such labels. At the same time, the labeling of such commodities with country of origin information is neither mandatory nor universal at the current time. Thus, while the burden of implementing country of origin labeling for those commodities should be lessened, some additional effort may still be required. For example, suppliers will need to ensure that documentation is complete and properly maintained. Retailers will need to manage their product displays to ensure country of origin information is being properly conveyed to their customers. Why Can't USDA Use The Same System To Verify Compliance With Country of Origin Labeling That It Uses for Meat Products Under USDA's Commodity Procurement Program?

There are several reasons why the systems must be different. First, the requirements for origin are not the same. The COOL law for U.S. origin requires meat products to be from cattle, hogs, and sheep that are born, raised, and slaughtered in the United States. USDA's commodity procurement program requires meat products to come from U.S.-produced livestock. The definition of U.S.-produced livestock excludes only imported meat and meat [[Page 61945] from livestock imported for direct slaughter. The system for verifying compliance with USDA's commodity procurement program is a ``command and control'' type

system. USDA, through various certification or audit programs, confirms the applicable claim at the beginning of the process, then tracks and controls the movement of the product throughout the rest of the marketing chain. A similar system for COOL would require USDA to verify that livestock were born in the United States, then track and control the movement of those livestock and resulting meat products through the marketing chain to retail. However, the COOL law specifically precludes USDA from imposing this type of control. How Will the Mandatory Country of Origin Labeling Requirements Impact Existing U.S. Cow and Bull Herds? The law requires country of origin labeling for all covered commodities sold at retail beginning September 30, 2004, and does not contain a grandfathering provision that would exclude meat from these animals from the mandatory labeling requirements. If records as to where these animals were born, raised, and slaughtered do not exist, retailers could not substantiate a country of origin claim that would comply with the law. Are Cattle, Hogs, and Sheep Covered Commodities? No. However, the law requires suppliers to provide country of origin information to retailers, including the 'born, raised, and slaughtered' information required to make U.S. origin claims for the covered commodities beef, pork, and lamb. The records needed to substantiate this information can only be created by persons having first-hand knowledge of the country designation for each production step declared in the country of origin claim. Thus, livestock producers will need to create and/or maintain these records to enable retail suppliers to provide retailers with correct country of origin information.

This proposed rule is issued pursuant to the Farm Bill and the Appropriations Act, which amended the Act.

On October 11, 2002, AMS published Guidelines for the Interim Voluntary Country of Origin Labeling of Beef, Lamb, Pork, Fish, Perishable Agricultural Commodities, and Peanuts (67 FR 63367) providing interested parties with 180 days to comment on the utility of the voluntary guidelines.

On November 21, 2002, AMS published a notice requesting emergency approval of a new information collection (67 FR 70205) providing interested parties with a 60-day period to comment on AMS' burden estimates associated with the recordkeeping requirements as required by the Paperwork Reduction Act of 1995 (PRA).

On January 22, 2003, AMS published a notice extending this comment period (68 FR 3006) an additional 30 days.

In response to these requests for comment, AMS received over 2,400 written comments. In addition, as another means to receive public input with respect to this rulemaking action, AMS held 12 formal educational and listening sessions throughout the United States to afford interested parties the opportunity to provide comments and ideas on the mandatory COOL program's development.

Over 3,300 people attended the listening sessions and approximately 580 people provided oral testimony.

AMS has considered all of the comments received to date in developing this proposed rule. Several key concepts have emerged from both the written comments and the public testimony from the listening and educational sessions:

- [sbull] General opinions of the law (i.e., both pro and con).

- [sbull] Conflicting testimony regarding the costs that will be incurred by the industry in complying with the law.

- [sbull] Opinion that the law will improve the food safety of covered commodities.

- [sbull] Conflicting testimony as to whether there will be improvement in the marketplace because of consumers' willingness to pay for U.S. origin of covered commodities.

- [sbull] Opinion that poultry will be placed at a competitive advantage because it is exempt from labeling under COOL.

- [sbull] Opinion that significant pricing disparity will exist between retailers required to label under COOL and those that are exempt such as fish markets and butcher shops.

- [sbull] Opinion that the law requiring mandatory COOL should be repealed and the program should be made permanently voluntary.

- [sbull] Opinions that COOL should be implemented immediately due to the Canadian BSE incident.

- [sbull] Considerable testimony that presumption of U.S. origin should be allowed.

- [sbull] Considerable testimony that only imported products should be tracked and controlled.

- [sbull] Considerable testimonies that COOL should be implemented in the least costly manner possible.

- [sbull] Conflicting testimony on how to interpret the scope of covered commodities.

- [sbull] Considerable testimony that producers should be allowed to self-certify the origin of their animals.

- [sbull] Considerable testimony that required recordkeeping should be minimized and should allow for the use of existing records to the maximum extent possible.

- [sbull] Testimony that this law may violate United States trade obligations under the World Trade Organization.

AMS has accepted many of the commenters' recommendations in developing this proposed rule. However, several of the recommendations provided by the commenters are not in conformance with the law and were therefore not adopted. Further discussion on the key concerns raised by the commenters can be found in each applicable section. AMS has also included a ``Questions and Answers'' section to address a few of the more common questions posed by the commenters.

Background

Section 10816 of Public Law 107-171 (7 U.S.C. 1638-1638d) amended the Act (7 U.S.C. 1621 et seq.) to require retailers to inform consumers of the country of origin of covered commodities beginning September 30, 2004.

The intent of this law is to provide consumers with additional information on which to base their purchasing decisions. It is not a food safety or animal health measure. COOL is a retail labeling program and as such does not address food safety or animal health concerns. Food products, both imported and domestic, must meet the food safety standards of FSIS and/or the Food and Drug Administration (FDA), as applicable. In addition, all food products must also meet FDA labeling standards as well as all other applicable FDA regulations and standards.

The law defines the term ``covered commodity'' as muscle cuts of beef (including veal), lamb, and pork; ground beef, ground lamb, and ground pork; farm-raised fish and shellfish; wild fish and shellfish; perishable agricultural commodities (fresh and frozen fruits and vegetables); and peanuts. The law defines the terms ``retailer'' and ``perishable agricultural commodity'' as having the meanings given those terms in PACA.

The law specifically outlines the criteria a covered commodity must meet in order to bear a ``United States country of origin'' declaration. In the case of beef, lamb, and pork, the covered [[Page 61946]] commodity must be derived from an animal that was exclusively born, raised, and slaughtered in the United States. In the case of beef, this definition also includes cattle exclusively born and raised in Alaska or Hawaii and transported for a period not to exceed 60 days through Canada to the United States and slaughtered in the United States. In the case of farm-raised fish and shellfish, the covered commodity must be derived from fish or shellfish hatched, raised, harvested, and processed in the United States. In the case of wild fish and shellfish, the covered commodity must be derived from fish or shellfish harvested in the waters of the United States or by a U.S. flagged vessel and processed in the United States or aboard a U.S. flagged vessel. In addition, the law also requires the country of origin declaration to distinguish between wild and farm-raised fish and shellfish. In the case of perishable agricultural commodities and peanuts, the products must be produced in the United States.

To convey the country of origin information, the law states that retailers may use a label, stamp, mark, placard, or other clear and visible sign on the covered commodity or on the package, display, holding unit, or bin containing the commodity at the final point of sale to consumers. Food service establishments, such as restaurants, cafeterias, food stands,

and other similar facilities are exempt from these labeling requirements. The law makes reference to the definition of ``retailer'' in PACA as the meaning of ``retailer'' for the application of the labeling requirements under the COOL law. Under PACA, a retailer is any person who is a dealer engaged in the business of selling any perishable agricultural commodity solely at retail when the invoice cost of all purchases of produce exceeds \$230,000 during a calendar year. This definition excludes butcher shops, fish markets, and small grocery stores that either sell fruits and vegetables at a level below this dollar volume threshold or do not sell any fruits and vegetables at all. The law requires any person engaged in the business of supplying a covered commodity to a retailer to provide the retailer with the product's country of origin information. In addition, the law states the Secretary of Agriculture (Secretary) may require that any person that prepares, stores, handles, or distributes a covered commodity for retail sale maintain a verifiable recordkeeping audit trail. The law prohibits the Secretary from using a mandatory identification system to verify the country of origin of a covered commodity and provides examples of existing certification programs that may be used to certify the country of origin of a covered commodity. The law contains enforcement provisions for both retailers and suppliers that include civil penalties of up to \$10,000 for each violation. The law also encourages the Secretary to enter into partnerships with States with enforcement infrastructure to the extent possible to assist in the program's administration.

Key Components of the Law

Defining Covered Commodities

The law defines the term ``covered commodity'' as: Muscle cuts of beef (including veal), lamb, and pork; ground beef, ground lamb, and ground pork; farm-raised fish and shellfish; wild fish and shellfish; perishable agricultural commodities; and peanuts.

Exclusion for Ingredient in a Processed Food Item

The law excludes items from needing to bear a country of origin declaration when a covered commodity is an ``ingredient in a processed food item.'' However, Public Law 107-171 does not define a ``processed food item.'' Therefore, AMS must define what constitutes a ``processed food item'' for each covered commodity in the context of Public Law 107-171 for the purposes of this proposed regulation. In defining ``processed food item'' in the voluntary guidelines (67 FR 63367), AMS recognized that

the term ``processed'' has been previously defined in other regulations promulgated by AMS, such as those issued in conjunction with the National Organic Program. AMS also stated that it did not believe that these definitions were suitable for use in the COOL program because using such a broad definition would exempt commodities that Congress clearly intended to be governed under this law. AMS received numerous comments relating to the definition of a ``processed food item.'' Many commenters suggested that the definition of processed food item published in the voluntary guidelines (67 FR 63367) resulted in significantly reducing the number of food items Congress intended to be covered by the Act. These commenters contend, for example, that a roast remains a muscle cut of beef even if cooked, salted, or flavored. Conversely, many other commenters suggested that the definition published in the voluntary guidelines (67 FR 63367) was too narrow and resulted in the inclusion of products that Congress did not intend to be covered by the Act. These commenters contend that any item bearing an ingredient statement should not be required to be labeled under COOL. As this is a retail labeling law, to help guide AMS in determining how to define a ``processed food item,'' AMS viewed the scope of covered commodities in the context of how these products are marketed at the retail level. For example, most peanuts sold at retail are shelled and roasted. To interpret the law as only applying to green peanuts would result in the exclusion of most peanuts sold at retail. Similarly, to exclude canned fish would result in the exclusion of a large share of the fish products sold at retail.

To address the concerns raised by the commenters, AMS has chosen to define a ``processed food item'' utilizing a 2-step approach. First, a retail item derived from a covered commodity that has undergone a physical or chemical change, causing the character to be different from that of the covered commodity is deemed to be a processed food item. Examples include oranges that have been squeezed and made into orange juice, a fresh leg of pork that has been cured and made into a ham, peanuts that have been ground and made into peanut butter, or flesh of a fish that has been restructured and made into a fish stick. These retail items have undergone a physical or chemical change such that they no longer retain the characteristics of the covered commodity and thus consumers would not use the items in the same manner as they would the covered commodities. Second, a retail item derived from a covered commodity that has been combined with either (1) other covered commodities, or (2) other substantive food components (e.g., chocolate, stuffing) resulting in a distinct retail item that is no longer marketed as a covered commodity. Examples include a salad mix that contains lettuce and tomatoes, peanuts in a candy bar, a stuffed pork chop, or seafood medley. Alternatively, some commenters

suggested that a processed food item could be defined as to exclude any product that bears an ingredient statement. These commenters contend that this would establish a bright line standard that would enable companies throughout the marketing chain to readily determine whether the commodities they produce or sell would be covered commodities. Utilizing such a definition would result in the exclusion of many products, including those products in which the ingredient statement lists only the commodity itself. Accordingly, AMS invites further [[Page 61947]] comment on the practicality of this alternative definition. Similarly, some commenters suggested that any covered commodity that has undergone processing as defined by other existing Federal regulations (e.g., PACA, National Organic Program, and AMS Processed Fruit and Vegetable Inspection Program) should be defined as an ingredient in a processed food item, thereby being excluded from country of origin labeling under this law. Under this alternative any food item that represents additional transformation (e.g., canning, cooking, dehydration, drying, fermentation, milling, the addition of chemical substances, etc.) of a covered commodity would be considered a processed food item. In addition, a covered commodity that has been combined with other covered commodities or other ingredients would also be considered an ingredient in a processed food item and excluded from labeling. Utilizing such a definition could result in the exclusion of many retail products. Accordingly, AMS invites further comment on the practicality of this alternative definition. As another alternative, some commenters suggested that a covered commodity that is further processed (i.e., cured, restructured, etc.) should not be excluded unless the covered commodity is mixed with other commodities to create a distinct food item such as a pizza or TV dinner. Accordingly, AMS also invites further comment on the practicality of this alternative definition. AMS invites further comment on its preferred approach, the three identified alternatives, or any other alternative to the statutory exclusion for an ingredient in a processed food item.

Muscle Cuts of Beef, Lamb, and Pork

All muscle cuts of beef (including veal), lamb, and pork whether chilled, frozen, raw, cooked, seasoned, or breaded are covered commodities and would be subject to these regulations unless they are an ingredient in a processed food item. In cases where a retail item is derived from a muscle cut of beef, lamb, or pork that has undergone a physical or chemical change, causing the character to be different than that of the covered commodity, that item is considered a processed food item and would be excluded from needing to bear a country of origin declaration under these regulations. For example, products such

as restructured steaks and cured products like hams, corned beef briskets, and bacon would be considered processed food items as they no longer retain the characteristics of the covered commodity and thus consumers would not use them in the same manner as they would the covered commodity. A consumer who desires a fresh pork leg for roasting would not substitute a cured product such as ham for the same purpose. In addition, these products also are not typically marketed with muscle meats at a retail establishment, but are generally marketed with other excluded meat products. In cases where a retail item is derived from a covered commodity that has been combined with non-substantive components, and the character of the covered commodity is retained, the resulting product would not be considered a processed food item and would be subject to these regulations. Examples include products such as needle-tenderized steaks; fully-cooked entrees containing beef pot roast with gravy; seasoned, vacuum-packaged pork loins; and water-enhanced case ready steaks, chops, and roasts. These items would not be considered processed food items because the combination of non-substantive components and a muscle cut of beef, lamb, or pork does not result in a retail item with characteristics that are different from that of the covered commodity and would generally be used by consumers in the same manner. In cases where a retail item consists of a muscle cut of beef, lamb, and pork and another covered commodity or other substantive food components resulting in a distinct retail item that is no longer marketed as a covered commodity, such an item is considered a processed food item and would be excluded from these regulations. An example includes an item such as a shish kabob containing beef and lamb, which would not be marketed as a muscle cut of beef or lamb, but would instead be marketed as a shish kabob.

Ground Beef, Lamb, and Pork

Under the law, ground beef, ground lamb, and ground pork are required to bear a country of origin declaration. FSIS rules and regulations specifically define the requirements for products to be labeled as ``ground beef,' ' ``ground pork,' ' and ``ground lamb.' ' As such, only those products that meet FSIS requirements to be labeled as ``ground beef,' ' ``ground pork,' ' or ``ground lamb,' ' must bear a country of origin declaration in accordance with this proposed rule.

Fresh and Frozen Fruits and Vegetables

Under the law, perishable agricultural commodities as defined by PACA are required to bear a country of origin declaration. PACA defines perishable agricultural commodities as

``any of the following, whether or not frozen or packed in ice:
 Fresh fruits and vegetables of every kind and character; and * *
 * includes cherries in brine as defined by the Secretary in
 accordance with trade usages.'' Therefore, frozen fruits and
 vegetables (e.g., a package of frozen strawberries or frozen
 french fried potatoes made from sliced potatoes) would be
 covered commodities subject to these regulations; however,
 cooked and canned fruits and vegetables would be exempt.
 In order to maintain consistency with PACA, a frozen fruit or
 vegetable would be a covered commodity as long as it is not an
 ingredient in a processed food item and thus its ``kind or
 character'' has not been altered. For example, a retail item
 derived from a perishable agricultural commodity that has
 undergone a physical or chemical change, causing the character
 to be different from that of the covered commodity, is
 considered to be a processed food item and would be excluded
 from these regulations. For example, oranges that have been
 squeezed and made into orange juice or apples that have been
 mashed and made into fresh apple sauce would be considered
 processed food items as they no longer retain the
 characteristics of the covered commodity and thus consumers
 would not use them in the same manner as they would the
 covered commodity. In cases where a retail item is derived from
 a perishable agricultural commodity combined with non-
 substantive components and the character of the covered
 commodity is retained, the resulting product is not considered a
 processed food item and would be subject to these regulations.
 Examples include products such as strawberries packaged with
 sugar, a preservative, or other flavoring. These items would not
 be considered processed food items because the addition of non-
 substantive components does not result in a retail item with
 characteristics that are different from that of the covered
 commodity and would generally be used by consumers in the same
 manner as the covered commodity. In cases where a retail item is
 derived from a perishable agricultural commodity that has been
 combined with another covered commodity or other substantive
 food components resulting in a distinct retail item that is not
 marketed as a covered commodity, such an item is considered a
 processed food item and would be excluded from [[Page 61948]]
 these regulations. Examples include a frozen prepared pie that
 includes frozen sliced apples, a fruit cup containing
 cantaloupe, honeydew, and watermelon, or a vegetable tray
 containing both carrots and celery.

Peanuts

All peanuts, whether raw, roasted, in-shell, shelled,
 salted, seasoned, or canned are subject to these regulations
 unless they are an ingredient in a processed food item. Under

the law, the term ``covered commodity'' includes ``peanuts.'' Because the vast majority of peanuts sold at retail are shelled, roasted, and salted, AMS believes these products were intended to be covered by the law. Accordingly, shelled and/or roasted peanuts would be subject to these regulations as these retail items do not have characteristics that are different from that of a covered commodity. Further, peanuts that have been combined with other non-substantive ingredients such as oil, salt, or other flavorings would also be subject to these regulations. However, peanut products such as candy coated peanuts, peanut brittle, and peanut butter would not be subject these regulations as they are processed food items with a character that is different than that of the covered commodity. In addition, in cases where the peanuts are ingredients in other food products (e.g., peanuts in a candy bar), they would also be excluded from these regulations as they are not marketed as a covered commodity.

Wild and Farm-Raised Fish and Shellfish

All fish and shellfish, whether chilled, frozen, raw, cooked, breaded, or canned would be subject to these regulations unless they are an ingredient in a processed food item. This includes fillets, steaks, nuggets, and other flesh from wild or farm-raised fish and shellfish. In cases where a retail item is derived from fish or shellfish that has undergone a physical or chemical change, causing the character to be different than that of the covered commodity, that item is considered a processed food item and would be excluded from these regulations. For example, items such as restructured shrimp or fish sticks and smoked and cured products would be considered processed food items because they no longer retain the characteristics of the covered commodity and thus consumers would not use them in the same manner as they would the covered commodity.

In cases where a retail item is derived from a fish or shellfish that has been combined with non-substantive ingredients such as seasonings, preservatives, or breading, that item would not be considered a processed food item as it does not result in a retail item with characteristics that are different from that of the covered commodity and would generally be used by consumers in the same manner as the covered commodity. In cases where a retail item is derived from a fish or shellfish that has been combined with another covered commodity or other substantive ingredients, that item would be considered a processed food item and would not be subject to these regulations as it results in a distinct retail item that is no longer marketed as a covered commodity. Examples include a bag of seafood medley, stuffed salmon, or surimi.

Labeling Country of Origin for Products Produced Exclusively in the United States

The law prescribes specific criteria that must be met for a covered commodity to bear a ``United States country of origin'' declaration. The specific requirements for each commodity are as follows: (a) Beef--covered commodities must be derived exclusively from an animal that was born, raised, and slaughtered in the United States (including from an animal exclusively born and raised in Alaska or Hawaii and transported for a period not to exceed 60 days through Canada to the United States and slaughtered in the United States). (b) Lamb and Pork--covered commodities must be derived exclusively from an animal that was born, raised, and slaughtered in the United States. (c) Farm-raised Fish and Shellfish--covered commodities must be derived exclusively from fish or shellfish hatched, raised, harvested, and processed in the United States. (d) Wild Fish and Shellfish--covered commodities must be derived exclusively from fish or shellfish either harvested in the waters of the United States or by a U.S. flagged vessel and processed in the United States or aboard a U.S. flagged vessel. (e) Fresh and Frozen Fruits and Vegetables, and Peanuts--covered commodities must be derived exclusively from perishable agricultural commodities or peanuts grown in the United States. Products otherwise meeting the requirements of ``United States country of origin'' may retain that designation after export for further processing in a foreign country and reentry into the United States for retail sale provided a verifiable recordkeeping audit trail is maintained. However, in the case of meat and meat products, additional labeling information may be required by other Federal agencies.

Labeling Country of Origin for Imported Products (i.e., Produced Entirely Outside of the United States)

Currently, under the Tariff Act of 1930, as amended (19 U.S.C. 1304)(Tariff Act), most imported items, including food items, are required to be marked to indicate the ``country of origin'' to the ``ultimate purchaser.'' The U.S. Bureau of Customs and Border Protection (CBP), which administers the Tariff Act, generally defines ``ultimate purchaser'' as the last person in the United States who will receive the article in the form in which it was imported and defines ``country of origin'' as the country of manufacture, production, or growth of any article of foreign origin entering the United States. For example, under the Tariff Act, containers (e.g., cartons and boxes) holding imported fresh fruits and vegetables must bear a country of origin declaration (as defined by current CBP regulations) when entering the United States. However, under

current law, a retailer may remove loose produce from a labeled container and display it in an open bin, selling each individual piece of produce without a country of origin declaration. In contrast, this proposed rule would require the retailer to notify the consumer as to the country of origin of all covered commodities whether individually packaged or displayed in a bin. Currently, under the Federal Meat Inspection Act (FMIA) (21 U.S.C. 601 et seq.), all meat products imported into the United States are required to bear the country of origin on the labeling of the container in which the products are shipped. If imported meat or meat products are intended to be sold intact to a grocer or household consumer (i.e., consumer-ready packaging), the country of origin is conveyed to those recipients. For example, if a bulk shipping container imported from country X, consists of pre-packaged and labeled meat cuts that are intended to be sold to grocers or at retail to household consumers as they are packaged, each package would bear a country of origin declaration (e.g., product of country X). Currently, under the Tariff Act, if an article is destined for a U.S. processor or manufacturer in which it will undergo "substantial transformation," that processor or manufacturer is generally considered the "ultimate purchaser." As such, products that have been substantially transformed by a U.S. processor generally are not required to bear a country of origin declaration. Similarly, under current FSIS policies and directives, imported meat and meat products that are further processed in the United States are not required to bear country of origin declarations on the newly produced products or subsequent products made from them as these products are now considered to be domestic. Under this proposed rule, imported covered commodities for which origin has already been established as defined by this regulation e.g., born, raised, and slaughtered in the case of meat products or grown in the case of peanuts), shall retain their origin, as determined by CBP at the time the product entered the United States, through retail sale. For example, if an imported lamb carcass derived from an animal that was born, raised, and slaughtered in country X, was further processed in the United States, the resulting products derived from that carcass would be labeled as "product of the country X." However, in this example, additional labeling information may be required by FSIS. Products imported in consumer-ready packages, including food products (e.g., frozen green beans or canned ham), are currently required to bear a country of origin declaration on each individual package under both the Tariff Act and FMIA. This proposed rule would not change these requirements. Labeling Country of Origin When the Product Has Entered the United States During the Production Process (i.e., Mixed Origin That Includes the United States) The law specifically defines the

requirements for covered commodities to bear a ``United States country of origin'' declaration. However, the law is less specific for products produced completely or in part outside of the United States. In these instances, the law requires only that retailers inform consumers as to the country of origin of a covered commodity at the final point of sale.

Beef, Lamb, and Pork

The law states that only covered commodities derived from animals that were born, raised, and slaughtered in the United States may bear a ``United States country of origin'' declaration. AMS recognizes that a number of animals born in foreign countries are raised and slaughtered in the United States. In addition, some animals born in the United States are raised in foreign countries and then either slaughtered in that foreign country or returned to the United States for slaughter. The requirements for products to bear a ``Product of the United States'' declaration do not permit products derived from animals that were born, raised, or slaughtered in a foreign country to be labeled as ``Product of the United States.'' However, AMS recognizes that to label products of an animal that was only born in country X, but raised and slaughtered in the United States solely as ``Product of country X'' does not reference the significant production steps that occurred in the United States. Therefore, under this proposed rule, products that were produced in both a foreign country and the United States would be labeled at retail as being imported from the foreign country and also for the production steps that occurred in the United States. For example, pork products derived from a pig that was born in country X, raised and slaughtered in the United States would be labeled as ``Imported from country X, Raised and Slaughtered in the United States.'' Alternatively, products may also be labeled to specifically identify the production step(s) that occurred in the country other than the United States if the animal's identity was maintained along with records to substantiate the origin claims. For example, products derived from a pig that was born and raised in country X and slaughtered in the United States could either be labeled as ``Imported from country X, Slaughtered in the United States'' or ``Born and Raised in country X, Slaughtered in the United States.'' AMS invites further comment on the use of alternative terms for the term ``slaughtered.'' AMS also recognizes that in some cases, an animal will undergo production steps in two or more foreign countries prior to entering the United States for additional processing or a final process such as slaughter. In these cases, the meat products derived from an animal that was born in country X, raised in country Y, and slaughtered in the

United States would be labeled at retail as being imported from country Y and for any production steps occurring in the United States. For example, if a calf was born in country X and raised in country Y before being imported for slaughter in the United States, the resulting meat products derived from this animal would be labeled as ``Imported from country Y, Slaughtered in the United States.'' Alternatively, if the animal's identity was maintained along with the records to substantiate the origin claims, the product could be labeled to specifically identify the production step(s) (e.g., born, raised) occurring in the country(ies) other than the United States. In the example cited above, the product could be labeled ``Born in country X, Raised in country Y, Slaughtered in the United States.'' AMS invites further comment on this approach to the labeling of beef, lamb and pork, and requests identification of alternative approaches to labeling such products.

Wild and Farm-Raised Fish and Shellfish

In the case of wild fish and shellfish, the law states that a covered commodity can only bear a ``United States country of origin'' declaration if it is harvested in the waters of the United States or aboard a U.S. flagged vessel and processed in the United States or aboard a U.S. flagged vessel. In the case of farm-raised fish and shellfish, the law states that a covered commodity can only be labeled as ``Product of the U.S.'' if it is hatched, raised, harvested, and processed in the United States. However, the law does not define the term processed. AMS received numerous comments requesting that the regulations for the mandatory COOL program conform to existing regulations of CBP wherever possible to eliminate redundancies, costs, and conflicts. As such, for wild and farm-raised fish and shellfish, AMS has defined ``processed'' as any process that effects substantial transformation as defined by CBP Rules of Origin. In the case of wild fish and shellfish, if a covered commodity was harvested in the waters of the U.S. or by a U.S. flagged vessel and processed in country X or aboard a country X flagged vessel, the covered commodity shall be labeled at retail as ``Product of country X.'' For example, if a fish was caught in U.S. waters and processed into individually quick-frozen fillets in country Y, such product would be labeled as ``Product of country Y'' because it has been substantially transformed as defined by CBP and thus does not meet the requirements to bear a U.S. origin declaration. Alternatively, the product may also be labeled to include the production step occurring in the United States if the product's identity was maintained along with records to substantiate the origin claims. In the example provided above, the product could be labeled as ``product of country Y, harvested in the United States.''

If a covered commodity was harvested in country Y and processed in the United States or aboard a U.S. flagged vessel, the product shall be labeled at retail as ``Imported from country Y, processed in the United States.'' In all cases, the covered commodity must also [[Page 61950]] be labeled to indicate that it was derived from wild fish and/or shellfish. In the case of farm-raised fish, if a covered commodity was hatched in country X, and raised, harvested and/or processed in the United States, the product would be labeled as being imported from country X and for the production step(s) occurring in the United States. For example, if a fish was hatched in country X and processed in the United States, the product would be labeled as ``Imported from country X, Processed in the United States.'' If a covered commodity was hatched, raised, and harvested in the United States and processed in country X, the product shall be labeled at retail as ``Product of country X.'' Alternatively, the product may also be labeled to include the production step(s) occurring in the United States if the product's identity was maintained along with records to substantiate the origin claims. In the example given above, the product could be labeled as ``Product of country X, hatched, raised, and harvested in the United States.'' In all cases, the covered commodity must also be labeled to indicate that it was derived from farm-raised fish and/or shellfish. Farm-raised fish means fish or shellfish that have been harvested in controlled or selected environments, including ocean-ranched (e.g., penned) fish and shellfish confined in managed beds; and fillets, steaks, nuggets, and any other flesh from a farm-raised fish or shellfish. For example, mussels on rope culture and oysters on leased land would be considered farm-raised. AMS invites further comment on this approach to the labeling of wild and farm-raised fish and shellfish and requests identification of alternative approaches to labeling such products.

Defining Country of Origin for Blended Products

Many of the covered commodities required to bear a country of origin declaration under the law are commingled or blended products that were prepared from raw material sources having different origins (e.g., bagged lettuce, ground beef, shrimp, etc.). However, the law does not specify how these products should be labeled. In defining country of origin for blended or mixed products in the voluntary guidelines (67 FR 63367), AMS recognized that it could be misleading to consumers if only a small percentage of a covered commodity mixture met the definition of United States origin and yet the mixture could list the United States first ahead of other countries in the country of origin declaration on the package. As such, under the voluntary guidelines, the country of origin

declaration was to reflect the country of origin for each raw material source of the mixed or blended retail item by order of predominance by weight. In addition, under the voluntary guidelines, containers of mixed or blended products in which the individual constituents could be separately identified, would have to bear a country of origin declaration individually identifying the country of origin of each constituent. AMS received numerous comments on this issue stating that to require labeling in the order of predominance by weight and for each individual constituent would be cumbersome, impractical, and costly. In response to these comments, under this proposed rule, the country of origin declaration of blended or mixed retail food items comprised of the same covered commodity (e.g., bag of lettuce or package of ground beef) that are prepared from raw material sources having different origins must list alphabetically the countries of origin for all of the raw materials contained therein. For example, a bag of red and green leaf lettuce from country A and country B would be labeled as ``Product of country A, Product of country B.'' However, under this proposed rule, items such as a salad mix or a fruit cup would not be required to bear a country of origin declaration because these items would be considered processed food items and would be excluded from these regulations.

Method of Notification

The law states that the country of origin declaration may be provided to consumers by means of a label, stamp, mark, placard, or other clear and visible sign on the covered commodity or on the package, display, holding unit, or bin containing the commodity at the final point of sale to consumers. Under this proposed rule, market participants can utilize a variety of different labeling nomenclatures to denote the country of origin of a covered commodity. For example, ``U.K.'' and ``United Kingdom of Great Britain and Northern Ireland'' would both be allowed under this proposed rule. AMS received numerous comments requesting acceptance for labels containing only the name of the country such as ``USA'' due to the limited amount of space on many retail items. Therefore, under this proposed rule, country of origin declarations may be in the form of a statement such as ``Product of USA,'' ``Grown in Mexico,'' or they may only contain the name of the country such as ``USA'' or ``Mexico'' provided it is in conformance with other existing Federal laws. However, the labeling requirements under this proposed rule do not supercede any existing labeling requirements, unless otherwise specified, and any such country of origin notification must not obscure other labeling information required by existing regulatory requirements. For those entities that are regulated

by FSIS, all country of origin labels must be submitted to FSIS for pre-approval as required by current FSIS regulations. In order to provide the industry with as much flexibility as possible, this proposed rule does not contain specific requirements as to the exact placement or size of the country of origin declaration. However, such declaration must be conspicuous and allow consumers to determine the country of origin when making their purchases and provided that existing Federal labeling requirements must be followed.

State and Regional Labeling Programs

The law requires retailers to notify consumers of the country of origin of covered commodities. Therefore, State and regional labeling programs such as ``Washington apples,`` ``Idaho potatoes,`` and ``California Grown`` do not meet this requirement and cannot be accepted in lieu of country of origin labeling. Existing State-Level Country of Origin Labeling Laws Several States have implemented mandatory programs for country of origin labeling of certain commodities. For example, Alabama, Arkansas, Mississippi, and Louisiana have origin labeling requirements for certain seafood products. Other States including Wyoming, Idaho, North Dakota, South Dakota, Louisiana, Kansas, and Mississippi have origin labeling requirements for particular meat products. In addition, the State of Florida and the State of Maine have origin labeling requirements for fresh produce items. AMS received several comments asserting that these State programs, particularly the State of Florida's program, should serve as models for the Federal mandatory COOL program. AMS has reviewed these existing programs and concluded that most of these programs do not meet the requirements of the Act. Accordingly, AMS has determined that, in general, these programs are not suitable models on which to base the regulations for the Federal mandatory COOL program. With regard to enforcement activities, while some of these States actively enforce their respective origin labeling [[Page 61951]] laws and impose fines on those found to be in violation and/or seize product found to be mislabeled, other States conduct no such enforcement activities. With respect to the Florida law that is actively enforced by the State, verification of a product's origin generally consists of the inspector observing the primary container the product was packaged in to determine if the retailer has accurately characterized the origin of the product on the shelf. This enforcement program is based on a presumption of truthfulness that allows the retailer to rely on the information printed either on the shipping container or on the product itself. Therefore, AMS does not believe this type of enforcement program could serve as a model for enforcement of the Federal program.

Remotely Purchased Products

Many consumers are now purchasing products from retailers prior to having an opportunity to observe the final package (e.g., Internet sales, home delivery sales, etc.). In the voluntary guidelines (67 FR 63367), AMS stated its belief that consumers should be made aware of the country of origin of a covered commodity before the purchase is made. Thus, under the voluntary guidelines retailers were required to provide the country of origin information on the sales vehicle (i.e., Internet site, home delivery catalog, etc.) as part of the information describing the covered commodity for sale. Numerous commenters stated that it would be nearly impossible and extremely impractical to have current country of origin information on an Internet site or catalog as this information changes rapidly depending on the store location or warehouse at which an order is processed and filled. Therefore, under this proposed rule, retailers must provide notification of country of origin at the time the product is delivered to the customer.

Recordkeeping Requirements

The law states that the Secretary may require any person that prepares, stores, handles, or distributes a covered commodity for retail sale to maintain a verifiable recordkeeping audit trail that will permit the Secretary to verify compliance. As such, records and other documentary evidence to substantiate origin declarations and, if applicable, designations of wild or farm-raised, are necessary in order to provide retailers with credible information on which to base origin declarations. Under this proposed rule, any person engaged in the business of supplying a covered commodity to a retailer, whether directly or indirectly (i.e., distributors, handlers, etc.), would be required to maintain records to establish and identify the immediate previous source and immediate subsequent recipient of a covered commodity, in such a way that identifies the product unique to that transaction, for a period of 2 years from the date of the transaction. The supplier of a covered commodity that is responsible for initiating a country of origin declaration and, if applicable, designation of wild or farm-raised, must possess or have legal access to records that substantiate that claim. For an imported covered commodity, the importer of record as determined by CBP, must ensure that records: (1) Provide clear product tracking from the U.S. port of entry to the immediate subsequent recipient, and (2) substantiate country of origin claims, and, if applicable, designations of wild or farm-raised and maintain

such records for a period of 2 years from the date of the transaction. To the extent that existing records contain the necessary information to substantiate an origin declaration and, if applicable, designations of wild or farm-raised, it is not necessary to create or maintain additional records. AMS invites comment on all aspects of recordkeeping requirements. In particular, comment is invited on whether a shorter record retention requirement would still afford adequate time to conduct compliance activities. For example, FDA proposed a 1-year record retention requirement for perishable goods in their proposed rule, published on May 9, 2003, implementing sections of the Bioterrorism Act of 2002, and many firms would have to retain records for both this rulemaking and the FDA recordkeeping rule. At the same time, retailers and others in the marketing chain subject to PACA must continue to comply with its 2 year record retention requirement. For suppliers that handle similar covered commodities from more than one country, the supplier must be able to document that the origin of a product was separately tracked, while in their control, during any production or packaging processes to demonstrate that the identity of the product was maintained. Under this proposed rule, retailers also have recordkeeping responsibilities. AMS received numerous comments requesting clarification of the types of records that must be kept at the retail level. Many of these commenters also suggested that a 2-year requirement for maintaining records at the store level was too onerous and unnecessary given the relatively short amount of time a product is on the shelf before it is sold. Therefore, under this proposed rule, records and other documentary evidence relied upon at the point of sale by the retailer to establish a product's country of origin and, if applicable, designation of wild or farm-raised, must be maintained at the point of sale or otherwise be reasonably available to any duly authorized representatives of USDA for at least 7 days following the retail sale of the product. Records that identify the retail supplier, the product unique to that transaction, and the country of origin information, and, if applicable, designation of wild or farm-raised, must be maintained for a period of 2 years from the date the origin declaration is made at retail. Such records may be located at the retailer's point of distribution, warehouse, central offices, or other off-site location. AMS invites comment on all aspects of recordkeeping requirements. In particular, comment is invited on whether a shorter record retention requirement would still afford adequate time to conduct compliance activities. For example, FDA proposed a 1-year record retention requirement for perishable goods in their proposed rule, published on May 9, 2003, implementing sections of the Bioterrorism Act of 2002, and

many firms would have to retain records for both this rulemaking and the FDA recordkeeping rule. At the same time, retailers and others in the marketing chain subject to PACA must continue to comply with its 2 year record retention requirement. AMS also received numerous comments from retailers emphasizing the need to hold retail suppliers accountable as the retailer would be unable to determine a product's country of origin in the absence of credible information from the supplier. Under the statute, suppliers of covered commodities are required to supply country of origin information to retailers and sanctions may be assessed against retailers only for willful violations. However, to help address the concerns of retailers, AMS invites further comment on the practicality of requiring suppliers to provide an affidavit for each transaction to the immediate subsequent recipient certifying that the country of origin claims and, if applicable, designations of wild or farm-raised, being made are truthful and that the required records are being maintained. [[Page 61952]]

Enforcement

The law encourages the Secretary to enter into partnerships with States to the extent practicable to assist in the administration of this program. As such, USDA will seek to enter into partnerships with States that have enforcement infrastructure to conduct retail compliance reviews. Routine compliance reviews may be conducted at retail establishments and associated administrative offices, and suppliers subject to these regulations. USDA would coordinate the scheduling and determine the procedures for reviews. Only USDA will be able to initiate enforcement actions against a person found to be in violation of the law. USDA may also conduct investigations of complaints made by any person alleging violations of these regulations when the Secretary determines that reasonable grounds for such investigation exist. Retailers, upon being notified of the commencement of a compliance review, must make all records or other documentary evidence material to this review available to USDA representatives and provide any necessary facilities for such inspections. AMS invites further comment on all aspects of enforcement of this retail labeling rule. Specific comment is requested on the implications of the statutory mandate for retail labeling beginning September 30, 2004, relative to the amount of lead time necessary for firms in the supply chain to comply with this rule.

Violations

The law contains enforcement provisions for both retailers and suppliers that include civil penalties of up to \$10,000 for

each violation. For retailers, the law states that if the Secretary determines that a retailer is in violation of the Act, the Secretary must notify the retailer of the determination and provide the retailer with a 30-day period during which the retailer may take necessary steps to comply. If upon completion of the 30-day period the Secretary determines the retailer has willfully violated the Act, after providing notice and an opportunity for a hearing, the retailer may be fined not more than \$10,000 for each violation. AMS received numerous comments requesting a clarification as to how AMS will apply the standard of willfulness. These commenters urge USDA to recognize that if a majority of covered commodity items bear a label indicating the product's country of origin, the retailer has met their obligation under these regulations. AMS recognizes that many suppliers, particularly in the case of produce, will apply stickers to individual covered commodities indicating the country of origin and that such labeling technology does not result in a 100 percent adhesion level. AMS also recognizes that consumers may separate hands of bananas that may only have one or two stickers per hand or otherwise move an item from one bin to another as they make their selections. AMS will take these and all other circumstances into account in determining whether or not a retailer has committed a willful violation. In addition to the enforcement provisions contained in the Act, statements regarding a product's origin must also comply with other existing Federal statutes. For example, if a firm misrepresents the State, country, or region of origin of a perishable agricultural commodity, the firm is in violation of PACA. In addition, both FMIA and the Federal Food, Drug, and Cosmetic Act prohibit labeling that is false or misleading. Thus, inaccurate country of origin labeling of covered commodities may lead to additional penalties under these statutes as well.

Executive Order 12988

The contents of this proposed rule were reviewed under Executive Order 12988, Civil Justice Reform. This rule is not intended to have a retroactive effect. States and local jurisdictions are preempted from creating or operating country of origin labeling programs for the commodities specified in the Act and these regulations. With regard to other Federal statutes, all labeling claims made in conjunction with this regulation must be consistent with other applicable Federal requirements. Further, the Act does not restrict or modify the authority of the Secretary to administer or enforce FMIA(21 U.S.C. 601 et seq.) or PACA (7 U.S.C. 499 et seq.). There are no administrative procedures that must be exhausted prior to any judicial challenge to the provisions of this rule.

Civil Rights Review

AMS has considered the potential civil rights implications of this rule on minorities, women, or persons with disabilities to ensure that no person or group shall be discriminated against on the basis of race, color, national origin, gender, religion, age, disability, sexual orientation, marital or family status, political beliefs, parental status, or protected genetic information. This review included persons that are employees of the entities that are subject to these regulations. This proposed rule does not require affected entities to relocate or alter their operations in ways that could adversely affect such persons or groups. Further, this proposed rule would not deny any persons or groups the benefits of the program or subject any persons or groups to discrimination.

Executive Order 13132

This proposed rule has been reviewed under Executive Order 13132, Federalism. This Order directs agencies to construe, in regulations and otherwise, a Federal statute to preempt State law only where the statute contains an express preemption provision or there is some other clear evidence to conclude that the Congress intended preemption of State law, or where the exercise of State authority conflicts with the exercise of Federal authority under the Federal statute. This proposed rule is required by the Farm Bill. While this statute does not contain an express preemption provision, it is clear from the language in the statute that Congress intended preemption of State law. Several States have implemented mandatory programs for country of origin labeling of certain commodities. For example, Alabama, Arkansas, Mississippi, and Louisiana have origin labeling requirements for certain seafood products. Other States including Wyoming, Idaho, North Dakota, South Dakota, Louisiana, Kansas, and Mississippi have origin labeling requirements for certain meat products. In addition, the State of Florida and the State of Maine have origin labeling requirements for fresh produce items. To the extent that these State country of origin labeling programs encompass commodities which are not governed by this regulation, the States may continue to operate them. With regard to consultation with States, as directed by the law, AMS has consulted with the States that have country of origin labeling programs. Further, State officials were invited to attend, and in many cases did participate in, the 12 educational and listening sessions AMS held across the United States. Further, States are expressly invited to comment on this proposed rule as it relates to existing State programs.

Executive Order 12866

USDA has examined the economic impact of this proposed rule as required by Executive Order 12866. USDA has determined that this regulatory action is economically significant, as it is likely to result in a rule that would have an annual effect on the economy of \$100 million or more and therefore has been reviewed by OMB. Executive Order [[Page 61953]] 12866 requires that a regulatory cost-benefit assessment be performed on all economically significant regulatory actions. In accordance with Executive Order 12866, this preliminary economic impact assessment contains a statement of need for the proposed rule, an examination of alternative approaches, and an analysis of benefits and costs.

Summary of the Economic Analysis

The estimated benefits associated with this rule are likely to be negligible. The estimated first-year incremental cost for growers, producers, processors, wholesalers, and retailers ranges from \$582 million to \$3.9 billion. The estimated cost to the U.S. economy in higher food prices and reduced food production in the tenth year after implementation of the rule ranges from \$138 million to \$596 million. Note that this analysis does not quantify certain costs of the proposed rule such as the cost of the rule after the first year, or the cost of any supply disruptions or any other ``lead-time'' issues. Except for the recordkeeping requirements, there is insufficient information to distinguish between first year start up and maintenance costs versus ongoing maintenance costs for this proposed rule. Maintenance costs beyond the first year are expected to be lower than the combined start up and maintenance costs required in the first year. AMS invites further comment on start up costs and maintenance costs for the first year and beyond for firms directly affected by this proposed rule. USDA finds little evidence that consumers are willing to pay a price premium for country of origin labeling. USDA also finds little evidence that consumers are likely to increase their purchase of food items bearing the U.S. origin label as a result of this rulemaking. Current evidence does not suggest that U.S. producers will receive sufficiently higher prices for U.S.-labeled products to cover the labeling, recordkeeping, and other related costs. The lack of participation in voluntary programs for labeling products of U.S. origin provides evidence that consumers do not have a strong preference for country of origin.

Statement of Need

This proposed rule is the direct result of statutory obligations to implement the COOL provisions of the Farm Bill, which amended the Act by adding Subtitle D--Country of Origin Labeling. There are no alternatives to Federal regulatory intervention for implementing this statutory directive.

The country of origin labeling provisions of the Farm Bill change current Federal labeling requirements for muscle cuts of beef, pork, and lamb; ground beef, ground pork, and ground lamb; farm-raised fish; wild fish; perishable agricultural commodities; and peanuts (hereafter, covered commodities). Under current Federal laws and regulations, country of origin labeling is not universally required for covered commodities. In particular, labeling of U.S. origin is not mandatory, and labeling of imported products at the consumer level is required only in certain circumstances. The Tariff Act, FMIA, and other legislation require most imports to bear labels informing the ``ultimate purchaser'' of the country of origin. ``Ultimate purchaser'' is defined as the last U.S. person who will receive the article in the form in which it was imported. The Tariff Act requires country of origin declarations on containers (e.g., cartons and boxes) holding imported fresh fruits and vegetables when entering the United States. Under the provisions of this statute, loose produce in a labeled container can be displayed and sold in an open bin at retail outlets without country of origin labels on each individual piece of produce. A placard or other bin label indicating country of origin is not required. If the produce in a shipping container is packed in consumer-ready packaging, however, those packages must bear a country of origin declaration. For example, grapes packaged in bags or shrink-wrapped English cucumbers must have country of origin labels on each consumer-ready package. Further, if the food item is destined for a U.S. processor or manufacturer where it will undergo ``substantial transformation,'' that processor or manufacturer is considered the ultimate purchaser. As a result, under the Tariff Act, these covered commodities are not required to carry a country of origin mark after processing in the United States. The strongest case for establishing a market failure justification for mandatory COOL is inadequate or asymmetric information. Country of origin is clearly a credence attribute, which means that consumers cannot observe the attribute before or after purchasing the product. Without labeling, there is no way for consumers to know the country of origin of a covered commodity. If the country of origin of the commodities covered by this proposed rule is an attribute desired by consumers and there is market failure that impedes the voluntary provision of this information, then market efficiency could be improved by providing credible information to consumers. With credible country of origin information, consumers could select products based on their preferences for country of origin, and

the food industry could respond to consumer demand signals by providing products according to the expressed demands of consumers. Consumer surveys indicate that some consumers desire country of origin information on foods (Refs. 1, 2, and 3). The consumer surveys also indicate that consumers may desire COOL not out of any intrinsic value they place knowing the country of origin, but because it represents to them a proxy for product safety or quality, serves as an indicator of desirable environmental or labor practices, or represents a means for them to support U.S. or another country's producers. An important question to consider in weighing the economic basis for mandatory COOL is whether there are any barriers to the voluntary, private provision of the optimal level of country of origin information. Private costs incurred by firms in the supply chain represent the primary barrier to the voluntary provision of country of origin information. There are no significant regulatory barriers to the voluntary provision of this information. For the market to voluntarily provide credible country of origin declarations, information regarding country of origin must flow between firms involved in all stages of the food supply chain. Just as it is for consumers, country of origin information is a credence attribute for firms in the food supply chain. Firms must incur costs to provide credible country of origin information. If the increase in price firms in the supply chain expect to receive for providing consumers with country of origin information is less than the cost of providing it, then firms will not voluntarily incur the costs of providing this information. If there were profits to be made from country of origin labeling, there would be strong incentives for firms to advertise and market country of origin labeled foods. Firms in the food supply chain would not be expected to forgo opportunities for additional profits. Retailers would demand that food manufacturers supply them with products having verifiable origin information. If consumers favored product by origin, food manufacturers would demand food commodities specifying origin and verifiable origin information. U.S. farmers and fish harvesters could benefit financially from country of origin labels if consumers prefer domestic products to imports. In this [[Page 61954]] case labels would allow consumers to distinguish between imports and domestic products and make their choices accordingly. As a result, demand for domestic food products in the United States would rise along with domestic food prices. Further, domestic products would increase their market share relative to imports. However, if consumers do not generally prefer domestic products, labeling would confer little to no economic benefits to domestic producers. Overall, there does not appear to be a compelling market failure argument regarding the provision of country of origin information. There appear to be no barriers to the

provision of this information other than private costs to firms in the supply chain and low expected returns. Firms that would incur private costs to provide country of origin information would also enjoy the private benefits, if any, from consumer demand for the information. Thus, from the point of view of society, market mechanisms would ensure that the optimal level of country of origin information would be provided.

Alternative Approaches

Many aspects of the mandatory COOL provisions of Pub. L. 107-171 are prescriptive and provide little regulatory discretion for this proposed rulemaking. The law requires a statutorily defined set of food retailers to label covered commodities regarding their country of origin. The law also prohibits USDA from using a mandatory identification system to verify the country of origin of covered commodities. In its guidance for conducting analyses of regulatory benefits and costs, OMB suggests several categories of alternative approaches that agencies should consider during their analysis. Applicable categories of alternative approaches for this proposed rule are discussed below. Different requirements for different segments of the regulated population: The mandatory COOL law explicitly defines the retailers required to provide country of origin labeling for covered commodities (namely, retailers as defined by PACA). Thus, there is no discretionary authority for designating which retailers are subject to the COOL labeling requirements. The law also requires that any person supplying a covered commodity to a retailer provide information to the retailer indicating the country of origin of the covered commodity. Again, the law provides no discretionary authority to this requirement. Neither the law nor the proposed rule requires that any entity that produces or supplies covered commodities must market those commodities to retailers as defined by the law. Suppliers of covered commodities could completely avoid the requirements of this proposed rule by distributing their products through channels other than to the retailers subject to the law. Examples include retailers not subject to the law, foodservice firms, or exports. The proposed rule does not require specific types of recordkeeping systems. Thus, retailers and suppliers of covered commodities will be able to develop their own least-cost systems to implement COOL requirements. For example, one firm may depend primarily on manual identification and paper recordkeeping systems, while another may adopt automated identification and electronic recordkeeping systems. Alternative levels of stringency: USDA interprets the law as providing essentially no discretionary authority for providing alternative levels of stringency regarding the provision of country of origin information for

covered commodities by retailers as defined by the statute. That is, retailers either provide the required country of origin information to their customers or they do not, which provides no scope for alternative levels of stringency. There is, however, some degree of discretionary authority with regard to how the required information may be substantiated and how USDA may enforce the law and ensure compliance with this proposed rule. USDA received numerous comments suggesting self-certification as a means to identify country of origin, particularly for producers. USDA does not consider self-certification alone, absent records to substantiate the information, as a viable or credible alternative for compliance with this proposed rule. In addition, with no mechanism to verify compliance, such a system could be highly vulnerable to misrepresentation. USDA believes that some type of certification could be used as a means to transfer country of origin information from one level of the supply chain to the next, but such certification would need to be supported by adequate documentation to verify country of origin claims. An alternative to the proposed recordkeeping requirements would be to supplement the recordkeeping requirements with required affidavits attesting to the veracity of country of origin claims. Suppliers could be required to provide an affidavit for each transaction to the immediate subsequent recipient certifying that the country of origin claims and, if applicable, designations of wild or farm-raised, being made are truthful and that the required records are being maintained. This system of providing affidavits could provide enhanced assurance that each participant in the supply chain is fully accountable for providing valid country of origin claims. Alternative effective dates of compliance: The law states that country of origin labeling shall apply to the retail sale of a covered commodity beginning September 30, 2004. USDA interprets this requirement as providing no discretionary authority for alternative effective dates of compliance.

Alternative methods of ensuring compliance: Country of origin labeling is, by its very nature, an information-based activity. Thus, USDA believes that there are essentially no alternatives for verifying compliance other than through the use of an audit-based system to review the information which is both generated to substantiate country of origin claims and passed along the supply chain. USDA is precluded by law from implementing any mandatory system that might be used to verify country of origin information.

In terms of compliance activities, the law states that USDA shall, to the maximum extent practicable, enter into partnerships with States having enforcement infrastructure to assist in the administration of the law. USDA will seek to enter into such partnerships with States where possible to conduct compliance activities at retail establishments. Because

suppliers of covered commodities are often located outside of a particular State's boundaries and jurisdictions, USDA concludes that it would be most practicable for States to focus their enforcement activities on entities in the supply chain within their boundaries.

Informational measures: Providing information to consumers is the intent of this proposed rule and is the chosen regulatory alternative. More market-oriented approaches: There is no regulatory alternative to implementation of mandatory COOL by the statutorily specified retailers. The proposed rule, however, provides flexibility in allowing market participants to decide how best to implement mandatory COOL in their operations.

Considering specific statutory requirements: Within the parameters established by the legislation, one area which allows for regulatory discretion relates to the definition of an ingredient in a processed food item. The legislation provides that the term ``covered commodity'' does not include an item [[Page 61955]] ``if the item is an ingredient in a processed food item.'' The legislation does not, however, define a processed food item, nor what constitutes an ingredient in a processed food item. Therefore, alternative definitions of a processed food item are possible. The scope of commodities, or number of items, covered by the proposed rule changes under alternative definitions of a processed food item.

Analysis of Benefits and Costs

The baseline for this analysis is the present state of the affected industries absent mandatory COOL. USDA recognizes that some directly affected firms have already begun to implement changes in their operations to accommodate the law and the expected requirements of this proposed rule. The benefits and costs examined in the analysis represent incremental impacts relative to their state prior to any changes resulting from the mandatory COOL statute or this proposed rule. If consumers would pay extra for the certainty that their food was produced in a particular country, and if labeling is relatively inexpensive, there is an economic incentive to make consumers aware of this product characteristic. Retailers, food manufacturers, and producers would share the increased net revenues and have an incentive to voluntarily label. Given that retailers and food manufacturers have the greatest incentive to be informed about what consumers desire, the fact that they do not currently provide country of origin information to consumers on a widespread basis suggests that they believe that the costs of labeling outweigh the returns. Some analysts argue that country of origin information does not matter to U.S. consumers (See, for example, Ref. 4). Freshness, quality, price, and other factors may be more important to consumers than country of

origin. If country of origin does not influence demand, there is no incentive to provide country of origin labels. Retailers or food manufacturers providing country of origin labels would incur labeling costs (including the cost of segregating domestic and imported products) but receive no corresponding benefits. Even if consumers do favor labeled products over unlabeled products, labeling costs may outweigh the increase in market returns from increased demand and prices. In any event, economic efficiency of mandatory COOL will be maximized by implementing the program so that it reduces the cost of providing this information as much as possible. Benefits: The expected benefits from implementation of this rule are difficult to quantify. However, we believe that the benefits will be small and will accrue mainly to those consumers who desire country of origin information. We find little evidence to support the notion that consumers' stated preferences for country of origin labeling will lead to increased demands for covered commodities bearing the U.S.-origin label.

There is considerable research indicating that a majority of consumers have at least some interest in their food's origin, and a smaller but significant proportion of consumers that have a strong desire to know where their food was produced. However, this research indicates that consumer desire for country of origin labeling stems primarily from their concerns about the safety of the food they eat. To a lesser extent, this research indicates that consumer desire for country of origin labeling stems from concerns about the quality and freshness of products and a preference to support U.S. producers.

There is less research on how much consumers would pay to know the origin of the food they eat. Some recently conducted surveys, however, report that 71 percent to 73 percent of consumers are willing to pay more to know the origin of their food (Refs. 1 and 2). Measures of willingness to pay, however, do not necessarily translate directly into measures of what consumers would actually pay when faced with marketplace decisions. One frequently cited study, Umberger, et al. (Ref. 2) assessed consumers' willingness to pay for labeled beef of U.S. origin. They found that 73 percent of survey participants in Denver, Colorado, and Chicago, Illinois, were willing to pay premiums of 11 percent or more for steak and 24 percent or more for ground beef when labeled as beef of U.S.-origin. These findings have been cited by others as an indicator of the potential benefits that would accrue from country of origin labeling. For example, using the average amounts that consumers were willing to pay for U.S.-labeled beef from the Umberger, et al. study, VanSickle, et al. (Ref. 5) estimated that benefits to consumers for country of origin labeling of fresh beef muscle cuts and ground beef would equal \$5.8 billion per year based on recent per-

capita consumption figures and price data for January and February 2003. We believe, however, that this estimate is based on an inappropriate use of the results from the Umberger, et al. study.

There are several limitations with the willingness-to-pay studies that call into question the appropriateness of using this approach to make determinations about the benefits of this proposed rule. First, consumers in such studies often overstate their willingness to pay for a product. This typically happens because survey participants are not constrained by their normal household budgets when they are deciding which product or product feature they most value. In the case of the Umberger, et al. study, consumers ranked the importance of country of origin information 8th out of 17 factors, with food safety and freshness receiving the highest rankings. This suggests that, when faced with a real budget constraint, consumers might actually be willing to pay considerably less for the country of origin information than they indicate when surveyed. Second, in most of these willingness-to-pay studies, consumers are not faced with the actual choices they would face at retail outlets. For example, consumers in the Umberger, et al. study were only faced with making a hypothetical choice between U.S. beef and generic beef. Under the proposed rule, however, they may be faced with choosing between U.S. beef, beef from several other specific countries, and beef from a mixture of countries including the United States. In addition, the labels they see in the store will contain information about price and quality that may also affect the value they place on country of origin information. Visual characteristics and presentation of products in the store would also influence choice in addition to label information. Third, consumers' willingness-to-pay as elicited from a survey is a function of the questions asked. Different questionnaires will yield different results. For example, if consumers were told that nearly all of the beef they currently consume came from the United States before they were asked about their willingness to pay for U.S.-labeled beef, the strength of their preference for origin information would probably be less than if consumers were not told about the correct origin of the beef they consume. Finally, the results reported from these studies do not take into account changes in consumers' preferences for a particular product or product attribute over time. While consumers may be willing to pay more for a given attribute initially, as time goes on and they gain more experience with the product attribute, they may be less willing to pay for products with this attribute. The authors of the Umberger, et al. study acknowledge many of these limitations (Ref. 6). They state that the [[Page 61956]] results obtained from these types of surveys do not always predict consumer behavior. They also state that because of the limitations

inherent in willingness-to-pay studies, the results of their study should not be used to determine the economic impact of COOL. This is not to say that willingness-to-pay studies, such as the study conducted by Umberger, et al., are not useful. They are valuable for improving our understanding of consumer preferences for product characteristics. The results of these studies support the notion that at least some consumers desire this information and are willing to pay some amount for it. With respect to agricultural producer benefits, even if consumers are willing to pay more for U.S.-labeled products, this does not necessarily mean that U.S. producers would benefit from an increase in the demand for their products. U.S. producers will only benefit if the country of origin labeling increases demand and ultimately the farm price enough to cover producers' costs of labeling itself. Current evidence on country of origin labeling, however, does not suggest that U.S. producers will receive sufficiently higher farm prices for U.S.-labeled products to cover the costs of labeling. Moreover, it is even possible that producers could face lower farm prices as a result of labeling costs being passed back from retailers and processors.

For the past 3 years, FSIS and AMS have offered a voluntary program by which suppliers can place U.S.-origin declarations (certified to be accurate by USDA) on many of the meat products covered by this rule. However, no suppliers of these covered commodities have participated in this program. The lack of participation in government-provided programs for labeling products of U.S. origin provides evidence that consumers do not have a strong preference for country of origin labeling. At the very least it indicates that retailers and food manufacturers do not believe consumer preferences for country of origin information are strong enough to cause demand and prices for labeled products to increase sufficiently to pay for the costs of implementing a labeling program. We can see what happens when consumers do have a strong desire for labeling by contrasting the lack of participation in the U.S.-origin labeling programs to the high level of participation in the organic labeling program. Labeling provided under the organic program provides compelling evidence that processors and retailers will provide consumers with the information they desire when they believe that consumers have a strong preference for this information and are willing to pay for it.

Some may point to the fact that many of the commodities covered by this rule are already labeled as to country of origin as proof that consumers do desire this information. The existence of country of origin information by itself, however, does not indicate that consumers place any value on this information. For many covered commodities, the cost of identifying country of origin is minimal, and producers and

processors face little added expense in differentiating their product from others by country of origin. The primary indication of the strength of consumer preference for country of origin information would be whether processors and retailers were able to extract a price premium for promoting this information. While many products sold by retailers have country of origin labels, there appear to be far fewer of these products that retailers attempt to sell based on this information. Even when they do, there is little evidence that they are able to extract a premium for country of origin information.

The results from consumer surveys provide additional evidence that country of origin labeling may not lead to higher demand and prices for U.S.-labeled products. The results from these surveys indicate that the number of consumers with strong preferences for U.S.-origin labeled products is not sufficient for U.S. producers to benefit from labeling. This occurs because the supply of U.S.-origin products is likely to exceed the total quantity demanded by those who would pay a higher price for U.S. origin products (see, for example, Ref. 7). While consumers often state a preference for country of origin information, they also indicate that they desire this information because they believe it provides them with important information about the safety of their food. This suggests that consumers may use country of origin labeling as a proxy for food safety information. Country of origin labeling, as formulated under the proposed rule, does not provide valid information regarding food safety. This is because the proposed rule does not provide the traceability required to permit the government to rapidly respond to a contamination or disease outbreak. Furthermore, the country of origin information provided under this rule could cause some consumers to incorrectly attribute greater risks to products from a specific country than is justified. If this sentiment causes enough consumers to avoid this product and consequently pay a higher price for a competing country's product, the result would lead to a decline in consumer welfare.

Costs: To estimate the costs of this proposed rule, USDA employed a two-pronged approach. First, USDA estimated implementation costs for firms in the industries directly affected by the proposed rule. The implementation costs on directly affected firms represent increases in capital, labor, and other input costs that firms will incur to comply with the requirements of the proposed rule. These costs are expenses that these particular firms must incur, but are not necessarily costs to the U.S. economy as measured by the value of goods and services that are produced. USDA then applied the implementation cost estimates to a general equilibrium model to estimate overall impacts on the U.S. economy after a 10-year period of economic adjustment. The model provides a means to estimate the change in overall consumer purchasing power after

the economy has adjusted to the requirements of the proposed rule. To develop its estimates of implementation costs, USDA drew upon available studies, comments and testimony received on the voluntary COOL guidelines and this rulemaking, and its knowledge of the affected industries. USDA developed a range of estimated implementation costs to reflect the likely range of first-year costs for directly affected firms. At a minimum, all directly affected firms will need to comply with the recordkeeping requirements of the proposed rule. Thus, the lower range of incremental cost estimates reflect the costs to modify and maintain current recordkeeping systems. USDA believes, however, that firms will incur other capital and operational costs to comply with the proposed rule. For example, firms may need to modify their production, storage, distribution, and handling systems to enable country of origin information to be tracked and maintained from start to finish. Thus, the upper range of incremental cost estimates reflect not only additional recordkeeping costs, but also additional payments by the directly affected firms for capital, labor, and other expenses that will be incurred as a result of operational changes to comply with the proposed rule.

Estimated first-year incremental costs for directly affected firms range from \$582 million to \$3.9 billion. Estimated costs per firm range from \$180 to \$443 for producers, \$4,048 to \$50,086 for intermediaries (such as handlers, [[Page 61957]] importers, processors, and wholesalers), and \$49,581 to \$396,089 for retailers. Although the estimated incremental costs represent additional payments individual firms will incur to comply with the proposed rule, the sum of such payments does not represent the overall impacts of the proposed rule on the entire U.S. economy. In effect, these incremental costs represent increases in the costs of production for the affected firms. Firms will need to recover these costs to stay in business in the long run. To do this, firms will either pass the higher costs back to their suppliers by paying lower prices for inputs or pass the higher costs forward to their customers by charging higher prices for outputs. The directly affected industries as well as other, indirectly affected sectors of the economy will thus adjust over the longer run to the higher costs imposed by the proposed rule.

To estimate the overall impacts of the higher costs of production resulting from the proposed rule, USDA used a model of the entire U.S. economy. USDA adjusted the model by imposing the estimated implementation costs on the directly impacted segments of the economy in a computable general equilibrium model developed by the USDA's Economic Research Service (ERS). The model estimates changes in prices, production, exports, and imports as the directly impacted industries adjust to higher costs of production over the longer run (namely, 10 years).

Because the model covers the whole U.S. economy, it also estimates how other segments of the economy adjust to changes emanating from the directly affected segments and the resulting change in overall productivity of the economy.

Annual costs to the U.S. economy in terms of reduced purchasing power resulting from a loss in productivity after a 10-year period of adjustment are estimated to range from \$138 million to \$596 million. Domestic production for all of the covered commodities at the producer and retail levels is estimated to be lower and prices to be higher. In percentage terms, however, the production declines are larger than the price increases, so estimated industry revenue declines for all of the covered commodities. In addition, U.S. exports are estimated to decrease for all covered commodities, and U.S. imports also are estimated to decrease for all covered commodities except fish, which shows no change to a slight increase. It may appear counterintuitive to have first-year incremental costs ranging from \$582 million to \$3.9 billion for directly impacted firms, but smaller overall costs ranging from \$138 million to \$596 million in reduced consumers' purchasing power after 10 years of adjustment. Nonetheless, these results are consistent with each other. Directly affected firms incur additional costs to implement the requirements of the proposed rule, which take the form of additional payments for capital, labor, and other operating expenses. For the most part, however, such additional expenses for directly affected firms ultimately return to the economy. For example, additional human resource costs incurred to develop and maintain recordkeeping systems, segregate and display product properly, and so forth are also wages that will be spent on food, transportation, housing, and other goods and services in the economy. Likewise, capital costs for warehouse reconfiguration or changes in processing plants involve equipment and supplies purchased from firms that pay wages, purchase raw materials, and supply goods and services. Thus, the implementation costs incurred by directly affected firms are not entirely lost to the economy, but these incremental costs do increase the costs of production and decrease the productivity of the affected industries. The findings indicate that directly affected industries recover the higher costs imposed by the proposed rule through slightly higher prices for their products. With higher prices, the quantities of their products demanded also decline to the extent that total industry revenues also decline. Consumers pay slightly more for the products and purchase less of the covered commodities. Overall, however, the covered commodities account for a comparatively small portion of the U.S. economy and of consumers' budgets. Thus, the ``deadweight'' economic burden of the proposed rule is considerably smaller than the incremental costs to directly affected firms. The remainder of this

section describes in greater detail how USDA developed the estimated direct, incremental costs and the overall costs to the U.S. economy.

Cost assumptions: The industries directly affected by this proposed rule are those responsible for producing and marketing the covered commodities at retail stores as defined by the law. Consumers of the covered commodities at these retail outlets are also directly affected by this proposed rule. This proposed rule directly regulates the activities of retailers (as defined by the law) and their suppliers. Retailers are required by the proposed rule to provide country of origin information for the covered commodities that they sell, and firms that supply covered commodities to these retailers must provide them with this information. In addition, all other firms in the supply chain for the covered commodities are potentially affected by the proposed rule because country of origin information will need to be maintained and transferred along the entire supply chain to enable retailers to correctly label the products at the point of final sale. In general, the supply chains for the covered commodities consist of farm or fishing operations, processors, wholesalers, and retailers. Table 1 contains a listing of the number of entities in the supply chains for each of the covered commodities. The total cost of this proposed rule will depend on the number of entities affected and the incremental cost to each affected firm in the supply chain for the covered commodities. The proposed rule requires that retailers provide consumers with country of origin information for the covered commodities and also requires that their suppliers provide them with the information needed to substantiate these country of origin claims. To provide credible country of origin claims, firms in the supply chain will need to create, maintain, and transfer information from one level of the chain to the next. The proposed rule allows industry participants to determine the recordkeeping and information transfer mechanisms needed for compliance. Consequently, firms will modify existing recordkeeping systems and business practices as necessary to ensure compliance with the proposed rule. Number of firms and number of establishments affected: USDA estimates that approximately 1,377,000 establishments owned by approximately 1,339,000 firms would be either directly or indirectly affected by this rule. In general, the supply chain for each of the covered commodities includes agricultural producers or fish harvesters, processors, wholesalers, and retailers. Imported products may be introduced at any level of the supply chain. Other intermediaries, such as auction markets, may be involved in transferring products from one stage of production to the next. Table 1 provides estimates of the affected firms and establishments. [[Page 61958]]

Table 1.--Estimated Number of Affected Entities

Type	Firms
Establishments	
Beef, Lamb, and Pork:	
Cattle and Calves.....	1,032,670
Sheep and Lambs.....	64,170
Hogs and Pigs.....	67,150
Stockyards, Dealers & Market Agencies..	7,775
Livestock Processing & Slaughtering....	3,098
Meat & Meat Product Wholesale.....	3,185
Fish:	
Farm-Raised Fish and Shellfish.....	3,540
Fishing.....	76,499
Seafood Product Preparation & Packaging	741
Fish & Seafood Wholesale.....	2,897
Perishable Agricultural Commodities:	
Fruits & Vegetables.....	47,986
Frozen Fruit, Juice & Vegetable Mfg....	163
Fresh Fruit & Vegetable Wholesale.....	9,026
Peanuts:	
Peanut Farming.....	12,221
Roasted Nuts & Peanut Butter Mfg.....	140
Peanut Wholesalers.....	83
General Line Grocery Wholesalers.....	3,183
Retailers.....	4,512
Totals:	
Producers.....	1,303,846
Intermediaries.....	30,291
Retailers.....	4,512
Grand Total.....	1,338,649

Supply chains for the covered commodities are mostly specialized from farm production through manufacturing levels. After manufacturing, the degree of specialization diminishes, until products reach retail outlets where most affected retailers sell many of the covered commodities. Even after manufacturing, however, there are specialized wholesalers who distribute the products to retail outlets. Firms and

establishments that specialize in the production and distribution of each covered commodity are listed within each group. General-line wholesalers and retailers that handle several of the covered commodity groups are listed separately at the bottom of the table. For all covered commodities, the numbers of manufacturing and wholesaling establishments are estimated from the 2001 County Business Patterns (Ref. 8) and the 2000 Statistics of U.S. Businesses (Ref. 9). An establishment is a single physical location where business is conducted or where services or industrial operations are performed. A firm is a business organization consisting of one or more domestic establishments in the same industry that was specified under common ownership or control. The firm and the establishment are the same for single-establishment firms. County Business Patterns and Statistics of U.S. Businesses report data for companies with at least one paid employee. Nonemployer Statistics are also reported by the U.S. Census Bureau (Ref. 10). Nonemployer Statistics reports data for companies with no paid employees, such as independent contractors. Because nonemployer businesses are generally very small, we assume that nonemployer manufacturing and wholesaling businesses do not supply commodities to retailers of the size covered by this proposed rule (i.e., retailers selling fresh and frozen fruits and vegetables with an invoice value of at least \$230,000). Such small businesses likely are engaged in localized specialty operations that would not supply larger retailers. Therefore, nonemployer businesses are not included in the assessment of the firms and establishments impacted by the proposed rule. We invite comments on the validity of this assumption. We assume that all firms and establishments identified in Table 1 will be impacted by the proposed rule, although some may not produce or sell products ultimately within the scope of the proposed rule. While this assumption likely overstates the number of affected firms and establishments, we believe that the assumption is reasonable. Detailed data on the number of entities categorized by the marketing channels in which they operate and the specific products that they sell are not available. Beef, lamb, and pork: USDA estimates that there are 1,032,670 operations with cattle and calves (Ref. 11), 64,170 operations with sheep and lambs (Ref. 12), and 67,150 operations with hogs and pigs (Ref. 13). For farming operations, the firm and the establishment are considered to be one and the same. We assume that all of these livestock production operations are affected by the proposed rule, even though we recognize that substantial portions of the covered commodities produced from the livestock of these operations will fall outside of the proposed rule. Covered commodities sold at foodservice establishments, exported, used as ingredients in processed food items, or sold at retail outlets not covered by

the proposed rule are outside the scope of the proposed rule. When livestock are born, the producer typically does not know the ultimate destination for the final product. We assume that all producers will seek to keep their market options open, whether the final product moves to a covered retailer or to another marketing outlet. In addition, there are 7,775 posted stockyards, bonded dealers and market agencies that are involved in [[Page 61959]] buying, selling, and marketing livestock (Ref. 14). Some of these stockyards, dealers, and market agencies may deal exclusively with other species such as horses, but that number is small and expected to minimally impact the estimated number of firms and establishments. We estimate that there are 3,358 livestock slaughtering and processing establishments and operated by 3,098 firms. These numbers may be slightly overstated, since businesses that do not slaughter or process cattle, sheep, or hogs are included in these totals. For example, a plant that slaughtered only bison would be included in the totals, but the number of such businesses is very small. Also, some plants that process beef, lamb, or pork may produce only processed products that are excluded from the scope of the proposed rule. The number of such firms and establishments is unknown, but expected to be small. The number of meat and meat product wholesale firms is estimated to be 3,185 and the number of establishments is estimated to be 3,305. Fish. Fish production includes both farm-raised or aquaculture production and wild-caught fishing operations. Aquaculture operations include those producing food fish, crustaceans, and mollusks, and the estimated number of operations is 3,540 (Ref. 15). Most wild fish harvesting operations are nonemployer businesses. Census Bureau data are used to estimate the number of fishing, seafood product preparation and packaging, and fish and seafood wholesale establishments and firms (Refs. 8, 9, and 10). As with the beef, lamb, and pork firms and establishments, some of these fish and seafood firms and establishments may not produce or sell covered commodities. While the number of such entities is unknown, we assume that all firms and establishments will be impacted by the proposed rule. Perishable agricultural commodities: Census of Agriculture data provide estimates of the number of fruit and vegetable farming operations (Ref. 16). The total number of fruit farms is estimated at 81,956 and the total number of vegetable farms at 31,030. USDA estimates that 34.6 percent of fruit production and 62.0 percent of vegetable production is used for fresh and frozen products. USDA assumes that fruit and vegetable producers generally know whether their production is destined for fresh or processing use, meaning that some producers will be unaffected by the proposed rule depending upon the marketing channels for which they produce. Data on the number of farming operations

categorized by the ultimate end uses of the products do not exist. Therefore, USDA assumes that the number of farms producing fruits and vegetables for fresh and frozen use is proportional to the production of fresh and frozen fruits and vegetables relative to total production. Hence, the number of affected fruit farms is estimated at 28,357 and the number of vegetable farms at 19,339, for a total of 47,696 farming operations producing fruits and vegetables that will be impacted by this proposed rule. Businesses that process frozen fruits and vegetables and fresh fruit are estimated from Census Bureau data (Refs. 8, 9, and 10), and are estimated to include 163 firms operating 257 establishments. These estimates may be overstated by the inclusion of businesses that produce frozen juice and businesses that produce frozen fruits and vegetables in forms not covered by the proposed rule. Businesses wholesaling frozen fruits and vegetables are included in packaged frozen food wholesale firms and include 9,026 firms operating 12,878 establishments.

Peanuts: Census of Agriculture data provide an estimate of 12,221 peanut farming operations (Ref. 16). Businesses that roast nuts and manufacture peanut butter are estimated from Census Bureau data to include 140 firms operating 159 establishments (Refs. 8, 9, and 10). These numbers include companies that produce only peanut butter (not a covered commodity) or that may roast nuts not covered by the proposed rule, but the number of such operations is unknown. Businesses that wholesale peanuts are estimated from peanut marketing agreement data (Ref. 17) to include 83 firms and the same number of establishments. General-line wholesalers and retailers: In addition to specialty wholesalers that primarily handle a single covered commodity, there are also general-line wholesalers that handle a wide range of products. We assume that these general-line wholesalers likely handle at least one and possibly all of the covered commodities. Therefore, we include the number of general-line wholesale businesses among entities affected by the proposed rule. This includes 3,183 firms operating 3,993 establishments. Retailers covered by this proposed rule must meet the definition of a retailer as defined by PACA. The number of such businesses is estimated from PACA data (Ref. 18). The PACA definition includes only those retailers handling fresh and frozen fruits and vegetables with an invoice value of at least \$230,000 annually. Therefore, the number of retailers impacted by this rule is considerably smaller than the total number of food retailers nationwide. Census Bureau data show that there were 92,383 food store firms and 102 warehouse club and superstore firms in 2000 (Ref. 9). There were 127,566 food store establishments and 2,051 warehouse club and superstore establishments in 2001 (Ref. 8). Thus, we estimate that there are 92,485 retail firms and 129,617 retail establishments that

account for most of the retail sales of the covered commodities. However, only 4,512 retail firms operating 37,176 retail establishments are included under the statutory definition of a PACA retailer.

Source of cost estimates: Data on costs to implement mandatory COOL are largely unavailable. There are State programs for country of origin labeling of some products, CBP and regulations specify labeling requirements for imported products, and some companies choose to provide country of origin labels for marketing purposes. There are, however, no mandatory programs with similar requirements and coverage that would provide substantive guidance for estimating the costs of this proposed rule. On October 11, 2002, USDA published voluntary guidelines (67 FR 63367) for country of origin labeling of the covered commodities. USDA invited public comments on the utility of these guidelines, including the costs and benefits of the program. USDA also prepared an estimate of the information collection burden that would be associated with implementation of the voluntary guidelines and invited comments on the estimated information collection burden. In addition, USDA also sought comments on this rulemaking for mandatory COOL and held 12 public listening and information sessions across the country. We also met with many industry groups and individuals to discuss this rulemaking and visited facilities at all levels of the supply chain to learn about current industry practices and changes that would be required to implement mandatory COOL. In addition, a number of studies have been produced to address various issues relating to the economic impacts associated with implementation of mandatory COOL. To develop estimates of the cost of implementing this proposed rule, we reviewed the comments received on the voluntary guidelines, the comments received regarding this rulemaking for mandatory COOL, and available economic studies. No single source of information, however, provided [[Page 61960]] comprehensive coverage of all economic benefits and costs associated with mandatory COOL for all of the covered commodities. We applied our knowledge about the operation of the supply chains for the covered commodities to synthesize the available information about the proposed rule's potential costs.

Cost drivers: This proposed rule is a retail labeling requirement. Retail stores subject to this proposed rule will be required to inform consumers as to the country of origin of the covered commodities that they sell. To accomplish this task, individual package labels or other point-of-sale materials will be required. If products are not already labeled by suppliers, the retailer will be responsible for labeling the items or providing the country of origin information through other point-of-sale materials. This may require additional retail labor and personnel training. A

recordkeeping system will be required to ensure that products are labeled accurately and to permit compliance and enforcement reviews. For most retail firms of the size defined by the statute (i.e., those retailing fresh and frozen fruits and vegetables with an invoice value of at least \$230,000), we assume that recordkeeping will be accomplished primarily by electronic means. Modifications to recordkeeping systems will require software programming and likely will entail additional computer hardware. We expect that retail stores will also undertake efforts to ensure that their operations are in compliance with the proposed rule. Prior to reaching retailers, most covered commodities move through distribution centers or warehouses. Direct store deliveries (such as when a local truck farmer delivers fresh produce directly to a retail store) are an exception. Distribution centers will be required to provide retailers with country of origin information. This will require additional recordkeeping processes to ensure that the information passed from suppliers to retail stores permits accurate product labeling and permits compliance and enforcement reviews. Additional labor and training may be required to accommodate new processes and procedures needed to maintain the flow of country of origin information through the distribution system. There may be a need to further segregate products within the warehouse, add storage slots, and alter product stocking, sorting, and picking procedures. Packers and processors of covered commodities will also need to inform retailers and wholesalers as to the country of origin of the products that they sell. To do so, their suppliers will need to provide documentation regarding the country of origin of the products that they sell. Maintaining country of origin identity through the packing or processing phase is more complex if products from more than one country are involved. For example, the identity of fresh kiwi fruit from California and New Zealand entering the same packing house would need to be maintained throughout the packing operation. The efficiency of operations may be affected as products are segregated in receiving, storage, processing, and shipping operations.

For packers and processors handling products from multiple origins, there may also be a need to separate shifts for processing products from different origins, or to split processing within shifts. In either case, costs are likely to increase. Records will need to be maintained to ensure that accurate country of origin information is retained throughout the process and to permit compliance and enforcement reviews. Processors handling only domestic origin products or products from a single country of origin may have lower implementation costs compared with processors handling products from multiple origins. A processor that already sources products from a single country of origin would not face additional costs associated

with product segregation and tracking. Procurement costs also may be unaffected in this case, if the processor is able to continue sourcing products from the same suppliers. Alternatively, a processor that currently sources products from multiple countries of origin may choose to limit its source to a single country of origin to avoid costs associated with product segregation and tracking. In this case, such cost avoidance would be partially offset by additional procurement costs to source supplies from a single country of origin. Additional procurement costs may include higher transportation costs due to longer shipping distances and higher acquisition costs due to supply and demand conditions for products from a particular country of origin, whether domestic or foreign.

At the production level, agricultural producers and fish harvesters will need to create and maintain records to establish country of origin information for the products they sell. This information will need to be transferred and maintained as the products move through the supply chains. In general, additional producer costs include the cost of establishing and maintaining a recordkeeping system for country of origin information, animal or product identification, and labor and training.

Recordkeeping burden: On November 21, 2002, USDA published in the Federal Register a Notice of Request for Emergency Approval of a New Information Collection (67 FR 70205) for the interim guidelines for Voluntary Country of Origin Labeling for Beef, Lamb, Pork, Fish, Perishable Agricultural Commodities, and Peanuts that were published on October 11, 2002 (67 FR 63367). The Notice provided USDA's estimate of the recordkeeping burden imposed by voluntary COOL, under the requirements of PRA. That PRA cost estimate related solely to the recordkeeping burden and did not consider other costs imposed by COOL. Also, PRA requirements do not address the benefits of a program. Thus, PRA recordkeeping burden published by USDA did not reflect the full costs and benefits of voluntary COOL.

Cost analyses: Despite the numerous comments that USDA has received on the voluntary guidelines and on this rulemaking, there is surprisingly little quantitative evidence on the likely costs of mandatory COOL. The proposed rule does not specify the systems that affected entities must put in place to implement mandatory COOL. Instead, market participants will be given flexibility to develop their own systems to comply with the proposed rule. There are many ways in which the proposed rule's requirements may be met, and this contributes to the difficulty in arriving at a quantitative assessment of cost impacts. Nonetheless, a number of studies and submitted comments shed light on the potential costs of mandatory COOL. Generally, comments addressed costs for a particular firm or a segment of a particular supply chain for a given covered commodity. Of the

studies on potential economic impacts of mandatory COOL, only a handful developed estimated incremental implementation costs for market participants. We use the results of these studies, comments received, and knowledge of the affected industries to develop a range of the estimated incremental cost impacts of this proposed rule. [[Page 61961]] Estimated costs from the studies considered by USDA are summarized in Table 2. The studies are VanSickle, McEowen, Taylor, Harl, and Connor (Ref.5); Sparks Companies Inc. (Ref. 19); Hayes and Meyer (Ref. 20); and Davis (Ref. 21). All of the studies report annual costs, and the costs shown in Table 2 are assumed to represent first-year costs for mandatory COOL. In those cases in which the studies do not state so explicitly, USDA infers from the construction of the estimates that they represent first-year costs.

BILLING CODE 3410-02-P
[GRAPHIC] [TIFF OMITTED] TP30OC03.005

BILLING CODE 3410-02-C

[[Page 61962]]

At a minimum, mandatory COOL will entail the transfer of information through the respective supply chains, from production through retail sales. While information currently flows through the system as products move through the supply chains, there is little evidence that country of origin information typically is a component of this information flow. Thus, we believe that transfer and maintenance of records to establish COOL claims will be accomplished through modification of the current recordkeeping and systems used for accounting, purchasing, sales, production, and related operations. VanSickle, et al. (Ref. 5) address the recordkeeping cost to producers in their critique of USDA's estimate of the recordkeeping burden for the voluntary COOL guidelines. This study notes that producers currently maintain a variety of records for taxes, health rules, and other programs and they conclude that producers would require no new recordkeeping. As part of their critique of USDA's recordkeeping burden estimates, VanSickle, et al. recalculated the recordkeeping burden using different producer numbers and different labor costs. Although the study does not separately show calculations for each type of producer, the report permits such calculations to be made. Table 2 shows the results of these calculations, with the estimated recordkeeping for producers of each covered commodity calculated separately. VanSickle, et al. used the National Agricultural Statistics Service (NASS) data to determine the number of producers, and although in disagreement

with the assumption, they used USDA's assumption that producers would require 8 hours to establish a recordkeeping system and 12 hours annually to maintain it. They then applied Bureau of Labor Statistics (BLS) data showing that the median value of farm labor is \$7.67 per hour. Using these procedures, VanSickle, et al. estimated that the recordkeeping burden for cattle producers would be \$63.2 million to establish a mandatory COOL recordkeeping system and \$94.8 million to maintain it. Thus, the total first-year cost to cattle producers would be \$158 million. Table 2 shows the results of similar calculations for lamb, pork, fruit, vegetable, and peanut producers, as well as processors and retailers. As discussed previously, however, recordkeeping costs are not the only costs that we anticipate will be incurred by many market participants when implementing the proposed rule. In addition, Vansickle, et al. did not adjust labor rates to account for benefits and other labor costs such as social security, unemployment insurance, and workers compensation. Thus, we believe that these estimated recordkeeping costs underestimate the total costs for affected entities to implement mandatory COOL.

Sparks Companies, Inc., and Cattle Buyers Weekly (Sparks/CBW) submitted to USDA a study that provides estimated costs of mandatory COOL for the beef, pork, fish, and perishable agricultural commodity supply chains (Ref. 19). For each supply chain, the study identifies cost estimates for producers, packers/processors, retail distributors, and retailers. The Sparks/CBW study identifies additional cost factors expected to be incurred to implement mandatory COOL. For example, at the cow/calf rancher and backgrounder production level of the beef supply chain, the Sparks/CBW study identifies additional costs for animal identification tags/chips, data input and recordkeeping, and scanner hardware and software to read electronic tags. This study provides estimated costs for these processes, although supporting documentation for the cost estimates is not extensive. USDA concludes that most industry participants will likely incur the types of costs identified in the Sparks/CBW study. Based on comments received and knowledge of the affected industries, USDA further believes that the Sparks/CBW estimates represent the types of costs likely to be incurred as the affected entities implement the provisions of the proposed rule.

Hayes and Meyer developed cost estimates for the pork supply chain to implement mandatory COOL (Ref. 20). The study estimated the cost for the pork industry to adopt a traceback system similar to the system implemented in the European Union. While USDA expects some firms to adopt such a system, we do not believe that a full traceback system on an individual animal basis will be required to implement the proposed rule. Other less costly approaches likely will meet the requirements of

the proposed rule. For example, group identification of animals and pork products may suffice to establish country of origin claims. Therefore, USDA concludes that the Hayes and Meyer study presents a cost estimate that is at the upper end of the estimated costs needed to implement mandatory COOL.

Davis developed cost estimates for the beef supply chain to implement mandatory COOL (Ref. 21). The study identifies factors anticipated to increase costs as a result of mandatory COOL, such as permanent animal identification, third party audit, and product segregation. The total estimated costs presented in the study are substantially higher than other studies suggest, and USDA concludes that actual costs for implementing the proposed rule likely will be lower.

Incremental cost impacts on affected entities: USDA believes that at a minimum, affected entities will need to modify their existing recordkeeping systems to accommodate this proposed rule. Comments received on the voluntary COOL guidelines and on this rulemaking, USDA's knowledge of the affected industries, and visits to establishments of affected firms indicate that few existing recordkeeping systems currently provide the information that will be needed to substantiate COOL claims throughout the supply chain. We concur, however, with the many comments received on the voluntary guidelines and on the mandatory COOL rulemaking that many entities in the supply chains for the covered commodities already maintain the types of records that will be needed to implement the proposed rule. Thus, the marginal impact of adapting existing recordkeeping systems is expected to be relatively small. The large number of affected entities, particularly producers, leads to larger aggregate recordkeeping costs even with relatively low costs per entity. USDA's estimates of these costs are detailed in the PRA analysis, which describes the anticipated recordkeeping burden associated with this proposed rule. Table 3 summarizes these estimated recordkeeping costs for the first year of implementation, which USDA assumes to be the lower range of potential implementation costs for this proposed rule because costs other than recordkeeping are not included. [[Page 61963]]

Table 3.--Lower Range Estimates of First-Year Implementation
Costs per Affected Industry Segment

[In millions of dollars]

Beef	Lamb	Pork	Fish	F & V	Peanut	Multi	Total
196	13	12	9	5	1	235
(\1\)	(\1\)	(\1\)	8	23	0	91	123
(\1\)	(\1\)	(\1\)	(\1\)	(\1\)	(\1\)	224	224
Total.....							
\2\ 196	\2\ 13	\2\ 12	\2\ 16	\2\ 28	\2\ 2	315	582

\1\ These costs are included in the ``Multi'' column.\2\ This figure represents a partial total for this covered commodity, with remaining costs included in the ``Multi'' column.

As shown in Table 3, USDA estimates that the direct, incremental cost for firms to implement this proposed rule will total at least \$582 million in the first year. This is the estimated incremental or marginal cost for firms to comply with the new recordkeeping requirements for mandatory country of origin labeling. Costs to producers are estimated at \$235 million, costs to intermediaries such as handlers, processors and wholesalers are estimated at \$123 million, and costs to retailers are estimated at \$224 million. USDA believes, however, that there likely will be additional operational costs incurred as a result of this proposed rule. To estimate upper range costs of this proposed rule, we focus on units of production that are impacted rather than entities that are affected. The main reason for doing so is that available studies of the potential costs of mandatory country of origin labeling mainly estimate costs per unit. Thus, determining the appropriate number of units is an important step and provides a basis for comparing estimates from different sources. The upper range cost estimates developed by USDA represent the likely high end of costs to implement fully the proposed rule in the first year. The upper range cost estimates do not represent the absolute maximum cost estimates reported in available studies or in comments submitted to USDA. Rather, the upper range cost estimates represent USDA's assessment of available information on implementation costs and the reasonableness of estimated costs at the upper end of the spectrum.

For livestock producers the relevant unit of production is an animal because there will be costs associated with

maintaining country of origin information on each animal. These costs may include recordkeeping and ear tagging, segregation, and related means of identification on either an individual animal or lot basis. Annual domestic slaughter numbers are used to estimate the flow of animals through the live animal production segment of the supply chain. Table 4 shows annual slaughter numbers for cattle, hogs, and sheep and lambs (Ref. 22).

Table 4.--Estimated Annual Units of Production Affected by Mandatory Country of Origin Labeling

	Beef	Pork	Lamb	Fish	F & V	Peanuts	Million Head Million Pounds
Producer	36.8	100.3	3.3	7,707	97,083	4,239	
Intermediary	26,914	18,375	367	4,112	115,982	713	
Retailer	7,800	2,214	135	1,702	48,017	222	

For fish producers, production is measured by round weight (live weight) pounds of fish, except mollusks, which excludes the weight of the shell. Wild-caught fish and shellfish production is measured by U.S. domestic landings for fresh and frozen human food, which was estimated at 6,691 million pounds for 2001 (Ref. 23). USDA assumes that fish harvesters generally know whether their catch is destined for fresh and frozen markets, canning, or industrial use. Overall production numbers for aquaculture or farm-raised fish are estimated from United Nations Food and Agriculture Organization data. In 2001, U.S. aquacultural production was estimated at 1,016 million pounds (Ref. 24). USDA thus estimates the total production of wild and farm-raised fish and shellfish at 7.7 billion pounds. For fruits and vegetables, USDA assumes that essentially all production is predestined for fresh or processing use. That is, growers know before the crop is produced whether it will be sold for fresh consumption or for processing. However, USDA assumes that producers do not know whether their products ultimately will be sold to retailers, foodservice firms, or exporters. Therefore, USDA assumes that all fresh fruit and vegetable production and production destined for frozen processors at the producer level will be impacted by this proposed rule. The total production figure thus represents an estimate of volume of fresh and frozen production impacted by the proposed rule. Table 4 presents production estimates for 2001 for fruits and vegetables (Ref. 25).

As with livestock production, USDA assumes that all peanut

production will be impacted by this proposed rule. Peanut producers generally do not know what end uses or marketing channels their production will follow. Depending on qualities and grades produced, a given peanut producer's harvest could end up in a variety of product forms sold through several marketing outlets. U.S. peanut production for 2001 is shown in Table 4 (Ref. 25). USDA assumes that all sales by intermediaries such as handlers, packers, processors, wholesalers, and importers will be impacted by the proposed rule. Although some product is destined exclusively for foodservice or other channels of distribution not subject to the proposed rule, USDA assumes that these intermediaries will seek to keep their marketing options open for possible sales to subject retailers. USDA Economic Research Service (ERS) estimates of food disappearance for 2001 are used to measure the flow of covered commodities through intermediaries (Ref. 26). Food disappearance includes imports, which are impacted by the proposed rule, but does exclude exports, which are not.

For intermediaries, Table 4 shows total beef, pork, and lamb disappearance measured on a carcass-weight basis. Fresh, frozen, and canned fish and shellfish food disappearance is shown as edible meat weight. Total disappearance of fresh and frozen fruits and vegetables is computed from per capita consumption data measured on a farm-weight basis. Peanut disappearance is measured on a farmers' stock basis. The quantity of 713 million pounds shown in Table 4 is 32 percent of total peanut food disappearance to estimate peanut use in product forms subject to this proposed rule--snack peanuts (23 percent) and roasted in-shell peanuts (9 percent) (Ref. 27).

For retailers, food disappearance figures are adjusted to estimate consumption through retailers as defined by the statute. For each covered commodity, disappearance figures are multiplied by 0.414, which represents the estimated share of production sold through retailers covered by this proposed rule. To derive this share, the factor of 0.629 is used to remove the 37.1 percent food service quantity share of total food in 2002 (Ref. 28). This factor is then multiplied by 0.658, which was the share of sales by supermarkets, warehouse clubs and superstores of food for home consumption in 2002 (Ref. 29). In other words, USDA assumes supermarkets, warehouse clubs and superstores represent the retailers as defined by PACA, and these retailers are estimated to account for 65.8 percent of retail sales of the covered commodities.

Other retail food outlets were assumed not to meet the statutory definition of a retailer under PACA. These latter outlets include convenience stores, other grocery stores, specialty food stores, mass merchandisers, other stores, home delivered and mail order, and farmers, processors, wholesalers, and other. USDA recognizes that not all supermarkets meet the

statutory definition of a PACA retailer, while other retail outlets would meet the definition. USDA assumes that the relative volumes of covered commodities moving through supermarkets that are not PACA retailers offset the quantities of commodities moving through PACA retailers that are not supermarkets or warehouse clubs and superstores. USDA invites comments on the validity of this assumption. Beef, pork, and lamb retail movement is measured on a retail-weight basis. Beef and lamb retailer estimates shown in Table 4 are retail-weight food disappearance figures for 2001 multiplied by the factor of 0.414. Unlike beef and lamb, however, much of the pork carcass typically is processed into products that would not be covered commodities under the proposed rule. For example, most of the ham and bacon are cured, and other cuts such as picnic meat are used for sausage and other processed products. Thus, an additional factor of 0.375 is used for pork, which is the estimate of the proportion of the retail-weight pork carcass that is used for fresh pork cuts that would be classified commodities under the proposed rule. The cuts assumed to be covered commodities are fresh ham, all of the loin cuts, spareribs, and the entire Boston butt. Estimates of the retail weight of these cuts and other cuts are taken from the National Pork Board (Ref. 30). USDA recognizes that some of these cuts will be processed into items not covered by the proposed rule, while other cuts will be sold in unprocessed forms that would be covered by the proposed rule. Nonetheless, USDA believes that 37.5 percent represents the best available estimate of the proportion of the retail pork carcass that would be covered. When combined with the 41.4 percent of commodities estimated to be sold by subject retailers, USDA estimates that 15.5 percent of estimated pork consumption would be covered by the proposed rule.

Estimated fresh, frozen, and canned fish and shellfish retailer volume shown in Table 4 is measured by edible meat weight. Fresh and frozen fruit and vegetable retailer volume is measured by farm weight. Retailer peanut volume is measured on a kernel basis, as the majority of peanuts sold at retail are without the shell. Table 5 summarizes the upper range of direct, incremental costs that USDA believes firms will incur during the first year as a result of this proposed rule. These estimates are derived primarily from the available studies that addressed cost impacts of mandatory COOL. As discussed above, USDA believes that implementation of mandatory COOL will entail additional recordkeeping burden at the least and likely will entail other costs as well. Thus, to determine the upper range of implementation costs, we focus on available studies that attempt to account for costs beyond the recordkeeping burden.

Table 5.--Upper Range Estimates of First-Year Implementation
Costs per Affected Industry Segment
[In millions of dollars]

Beef	Pork	Lamb	Fish	F & V	Peanuts	Total	
Producer..368	150	15	19	24	1	578	
Intermediary..538	368	7	21	580	4	1,517	
Retailer..780	155	9	119	720	3	1,787	
Total..	1,686	673	32	159	1,324	8	3,882

For beef producers, the range of Sparks/CBW cost estimates is \$8.63 to \$10.63 per head, with estimated costs of \$4.88 per head for cow-calf producers and backgrounders and \$3.75 to \$5.75 per head for feedlots (Ref. 19). Davis (Ref. 21) estimates costs for beef producers of up to \$15.30 per head, with \$13.30 per head for cow-calf producers, \$1 per head for stockers, and \$1 per head for feedlots. USDA believes that implementation costs per head for cow-calf producers will be relatively small because many cow-calf operators likely already maintain much of the information that will be needed to substantiate country of origin, such as breeding records, production records, and other business records. Costs for backgrounders, stockers, and feeders likely will be higher because of the need to track country of origin information on cattle from multiple sources. Animal identification tags, development of data bases, and additional hardware for accounting and tracking likely will be [[Page 61965]] required for many operations, particularly larger operations, to maintain country of origin information on cattle that move through their operations. Segregation of animals by origin may be implemented at some operations to facilitate recordkeeping, and additional labor likely will be needed to tag or otherwise identify animals, record information, and transfer information to purchasers. Considering all producer segments together, USDA adopts \$10 per head as an upper range estimate of costs to cattle producers to implement the proposed rule. This estimate reflects USDA's expectation of relatively small implementation costs at the cow-calf level of production, but relatively higher costs each time cattle are resold. Typically, fed steers and heifers change hands two, three, or more times from birth to slaughter, and each exchange will require the transfer of country of origin information. Thus, total upper range costs for beef producers are estimated at \$368 million. For intermediaries in the beef sector, Sparks/CBW estimates costs of \$15 per head to \$18 per head for packers and processors of steers and heifers and \$4 per head for cows and

bulls for a total of \$429 million to \$546 million. Assuming commercial beef production of about 26 billion pounds for the 35 million head of cattle included in the Sparks/CBW estimates, estimated costs per pound are \$0.017 to \$0.021. Davis estimates costs of \$11 million per plant for the 43 largest beef packing plants, resulting in a national total of \$473 million. Assuming that these plants account for about 90 percent of total U.S. commercial beef production of about 27 billion pounds in 2002, this estimated cost works out to \$0.0195 per pound.

USDA expects that intermediaries will face increased costs associated with tracking cattle and the covered beef commodities produced from these animals and then providing this information to subsequent purchasers, which may be other intermediaries or covered retailers. Plain and Grimes estimate that 88.7 percent of the supply of steaks and roasts and 75.5 percent of the beef trimmings used to produce ground beef for U.S. consumption were U.S. born, raised, and slaughtered beef in 2002 (Ref. 7). Thus, substantial portions of the beef supply are from sources not meeting the definition of U.S. born, raised, and slaughtered. Consequently, incremental costs for beef packers likely will include additional capital and labor expenditures to enable cattle from different origins to be segregated for slaughter, fabrication, and processing. Considering the costs likely to be faced by intermediaries in the beef sector, USDA adopts \$0.02 per pound as an estimate of upper range costs, which is consistent with estimates from the available studies. Total upper range costs are thus estimated at \$538 million.

Sparks/CBW estimates costs of \$0.09 to \$0.12 per pound for beef retailers, with a total of \$805 million estimated for 8 billion pounds of beef sold assuming a cost of \$0.10 per pound. FSIS estimates the cost of retail labeling at approximately \$0.005 per package (Ref. 31), which is strictly the cost to apply a label and does not include costs such as recordkeeping or product segregation and tracking. Davis estimates total costs of \$428,500 per retail store to implement mandatory COOL for beef alone, for a total of \$4.6 billion nationally. Several supermarket retailers commented on the guidelines for voluntary country of origin labeling (67 FR 63367) and estimated costs to implement country of origin labeling at about \$26,000 to \$54,000 per store for all covered commodities (Refs. 32, 33, and 34). These estimates are an order of magnitude less than Davis' estimated cost per store, suggesting that the estimate of \$428,500 per store for beef alone is substantially overstated. A comment from another retailer estimated costs of \$0.075 to \$0.08 per pound just for labeling and recordkeeping for beef, pork, and seafood at retail (Ref. 35). USDA adopts \$0.10 per pound as an upper range estimate of implementation costs for beef retailers, for a total of \$780 million. This figure reflects the costs for individual package

labels, meat case segmentation, record keeping and information technology changes, labor, training, and auditing. In addition, there likely will be increased costs for in-store butcher department operations related to cutting, repackaging, and grinding operations. Total costs for affected entities in the beef sector are thus estimated at \$1.7 billion.

For pork producers, Sparks/CBW estimates costs at approximately \$1 per head for all types of production systems. Sparks/CBW takes into account cost efficiencies associated with integrated production and processing systems and large-scale production. Hayes and Meyer estimate costs at \$2 per head for all producers. Both the Sparks/CBW and the Hayes and Meyer studies appear to account credibly for the cost increases that pork producers are likely to encounter. Therefore, USDA adopts the midpoint of the per-head costs estimated by these two studies as the estimated upper range costs for pork producers. With annual slaughter of 100.3 million head, total costs for producers are estimated at \$150 million.

For processors, Sparks/CBW estimates costs at \$2 to \$6 per head for non-integrated hog packers, \$0.50 per head for vertically integrated hog production and packing systems (including costs associated with hog production), and \$2 per head for sows and boars. In the Sparks/CBW study, vertically integrated systems account for approximately 26 percent of total slaughter hog production. For all processors, the Sparks/CBW study estimates total costs of \$158 million to \$450 million, assuming that half of the costs per head for vertically integrated production and packing accrue to the packing operation. Based on 2002 commercial pork production, the Sparks/CBW cost estimates range from \$0.008 to \$0.023 per pound. Hayes and Meyer estimate processing costs at \$6.10 per head for all packers, which implies total costs of \$612 million based on slaughter of 100.3 million head or costs of \$0.031 per pound based on 2002 commercial pork production. USDA believes that upper range costs for all pork sector intermediaries (including handlers, processors, and wholesalers) will be similar to costs for beef sector intermediaries. USDA therefore estimates upper range costs for pork industry intermediaries at \$0.02 per pound, for a total of \$368 million.

For retailers, Sparks/CBW estimates costs for pork at \$0.055 per pound at the retail store level and \$0.02 to \$0.03 per pound at the retail distribution center, for a total of \$0.075 to \$0.085 per pound at the retail level. Hayes and Meyer estimate retail costs at \$1.87 per animal, or \$0.01 per pound. As noted previously, FSIS estimates the cost of retail labeling at approximately \$0.005 per package for the label alone (Ref. 31). Taking these sources into consideration, USDA estimates upper range costs for retailers of pork at \$0.07 per pound. USDA's upper range per-pound cost estimate for pork is lower than for

beef primarily to reflect the higher costs incurred by in-store grinding operations to produce ground beef. Although ground pork may also be produced in-store, most ground pork is processed into sausage and other products not covered by the proposed rule. Total estimated costs for pork retailers are \$155 million. Total upper range costs for the pork sector are estimated at \$673 million. USDA did not identify any quantitative analyses of costs of mandatory COOL on the lamb industry, other than the paperwork burden estimates developed by VanSickle, et al. [[Page 61966]] (Ref. 5). To obtain an estimate of the upper range on implementation costs for lamb producers, USDA assumed that cost impacts on a per-unit basis would fall between costs facing beef producers and pork producers. Lamb production is similar to beef production in several ways. Both sheep and cattle are ruminants, with breeding stock and young animals typically raised on open pasture and rangelands, and slaughter animals typically finished on grain-based diets in confined feeding operations. Cows normally produce one calf, while sheep normally produce one or two lambs. In other respects, lamb production is similar to pork production. These two industries have similar numbers of producers--about 64,000 sheep and lamb producers versus 67,000 hog and pig producers (Table 1). Slaughter animals of both species are marketed at about the same age, about 6 months. Because both lambs and pigs are slaughtered at a relatively young age, the animals typically do not change ownership several times, as is most often the case with cattle. USDA believes that per-head costs for lamb producers will be considerably less than for beef producers but higher than for pork producers. USDA assumes that upper range costs per head for lamb producers will be \$4.50 per head, which is three times the per-head costs assumed for pork producers and less than half the costs assumed for beef producers. Total upper range costs for lamb producers are estimated at \$15 million. USDA assumes that intermediaries in the lamb sector will face per-pound costs similar to costs faced by beef and pork sector intermediaries, which are estimated at \$0.02 per pound. Total costs for lamb sector intermediaries are thus estimated at \$7 million. USDA believes that costs to retailers for lamb will be similar to costs borne for pork, which was estimated at \$0.07 per pound. Total upper range costs for retailers of lamb are estimated at \$9 million. Summing the upper range estimates for producers, intermediaries, and retailers results in estimated upper range costs of \$32 million for the lamb industry. Regarding potential cost impacts of mandatory COOL on the fish and seafood sector, Sparks/CBW conducted the only quantitative assessment identified by USDA. Sparks/CBW estimates negligible costs for producers, \$0.005 per pound for processors and wholesalers, and \$0.05 to \$0.07 per pound for retailers. USDA believes that costs to fish and seafood producers will be higher than projected by

Sparks/CBW, which estimates total costs of \$1 million. For wild-caught fish, producers will need to maintain and transfer records on where fish are harvested and also transfer information on whether the vessel is U.S. flagged. Fish farming operations will need to maintain and transfer information regarding the location of production and of the origin of fish into the operation. USDA expects that fish and seafood producers will incur about half of the cost faced by processors and wholesalers. Producers will need to provide information on the products they sell while processors and wholesalers will need to track information on products that they both purchase and sell. Sparks/CBW estimates costs at \$0.005 per pound for fish and seafood processors and wholesalers, so half of this amount is \$0.0025 per pound. Total upper range costs for fish and seafood producers are thus estimated at \$19 million. USDA adopts \$0.005 per pound as an upper range estimate of costs for intermediaries in the fish and seafood sector, which is the Sparks/CBW estimate for processors and wholesalers. Processors will need to collect country of origin information from producers, maintain this information, and supply this information to other intermediaries or directly to retailers. In addition, there may need to be segregation of the product before and after processing to facilitate tracking of country of origin identity. There will also be labeling costs associated with providing country of origin information on consumer-ready packs of frozen and fresh fish that are labeled by processors. Total upper range costs for fish and seafood intermediaries are thus estimated at \$21 million. At the retail level, Sparks/CBW estimates costs of \$0.05 to \$0.07 per pound for fish and seafood. USDA adopts the higher end of this range as an upper range estimate of costs for retailers of fish and seafood. The upper range estimate of \$0.07 per pound is consistent with the costs estimated for pork and lamb at retail, and results in total upper range costs of \$159 million for retailers of fish and seafood. Total upper range costs for fish and seafood are estimated at \$118 million. As with fish and seafood, Sparks/CBW is the only quantitative study of the costs of mandatory COOL for perishable agricultural commodities of which USDA is aware. Sparks estimates total costs of \$20 million for fruit and vegetable producers, \$34 million for processors and wholesalers, and \$1.5 billion to \$3 billion for retailers. USDA agrees with Sparks/CBW that costs of mandatory COOL for fruit and vegetable producers will be relatively small, but believes that the parks/CBW estimate is too low. Although producers maintain many of the types of records that will be required to substantiate U.S. origin claims, USDA believes that this information is not universally transferred by producers to purchasers of their products. Producers will have to supply this type of information in a format that allows handlers and processors to maintain country

of origin information so that it can be accurately transferred to retailers. USDA estimates upper range costs of \$0.00025 per pound for producers for fruits and vegetables to make and substantiate COOL claims, which equates to \$0.01 for a 40 pound container. Total upper range costs for fruit and vegetable producers are estimated at \$35 million. As with fruit and vegetable producers, Sparks/CBW estimates relatively small costs for processors and wholesalers. USDA believes that fresh and frozen fruit and vegetable intermediaries will incur higher costs than those estimated by Sparks/CBW to implement the proposed rule. USDA believes that fruit and vegetable intermediaries will shoulder a sizeable portion of the burden of tracking and substantiating country of origin information. Intermediaries will need to obtain information to substantiate COOL claims by producers and suppliers; maintain COOL identity throughout handling, processing, and distribution; and supply retailer with COOL information through product labels and records. USDA estimates that the cost of these activities will be \$0.005 per pound for fruit and vegetable sector intermediaries, resulting in total estimated costs of \$580 million. Sparks/CBW estimates costs of \$0.03 to \$0.06 per pound for retailers of fresh and frozen fruits and vegetables. USDA believes that costs at retail will be lower than estimated by Sparks/CBW. The Sparks/CBW study reflects information that was available subsequent to the release of the voluntary COOL guidelines, which included mixed products as covered commodities required to be labeled. Mixed products comprised of two or more covered commodities are defined as processed items in this proposed rule, and thus do not require country of origin labels. Based on comments received by USDA, costs for providing country of origin information for mixed products would be high. Examples of mixed products prepared at retail stores include mixed fruit cups, vegetable trays, and salads. Because these mixed products will not [[Page 61967]] require the tracking, identification, and recordkeeping that will be needed for covered commodities, USDA believes that per-unit costs for implementation of the proposed rule will be lower than would be the case under the voluntary COOL guidelines. As discussed above, USDA believes that intermediaries will bear a portion of the burden of COOL tracking and labeling, which will lower implementation costs for retailers. USDA believes that virtually all frozen fruits and vegetables will be labeled by suppliers, thus imposing minimal incremental costs for retailers. In addition, a high proportion of fresh fruits and vegetables arrive at retail with labels or stickers that may be used to provide COOL information. USDA believes that fresh fruit and vegetable suppliers will provide COOL information on these labels and stickers, again imposing minimal incremental costs for retailers. Overall, USDA assumes that upper range

costs for retailers will be \$0.015 per pound of fresh and frozen fruits and vegetables, for a total of \$720 million. USDA identified no quantitative studies of the costs of mandatory labeling on the peanut sector. The implementation costs for peanut farmers are assumed to be similar to costs incurred by fruit and vegetable farmers, because both groups of growers likely maintain similar types of records and information that will be needed to substantiate country of origin claims. As with fruits and vegetables, peanut farmers deliver raw product to intermediaries for processing and processors distribute product to wholesalers for distribution to retail and other outlets. Lacking additional information on implementation costs, USDA anticipates that upper range costs for the peanut sector will be similar to costs faced by the fresh and frozen fruit and vegetable sector. Therefore, USDA estimates that costs per pound for each segment of the industry will be the same: \$0.00025 for producers, \$0.005 for intermediaries and \$0.015 for retailers. As a result, USDA estimates upper range costs for the peanut industry of \$1 million for producers, \$4 million for intermediaries, and \$3 million for retailers, for a total of \$8 million. USDA estimates total upper range incremental costs for this proposed rule of \$589 million for producers, \$1,517 million for intermediaries, and \$1,787 million for retailers for the first year. Total upper range incremental costs for all supply chain participants are estimated at \$3.9 billion for the first year. There are wide differences in average estimated implementation costs for individual entities in different segments of the supply chain (Table 6). At the lower range, costs are estimated at an average of \$180 per producer, \$4,048 per intermediary, and \$49,581 per retailer at the firm level. At the establishment level, lower range costs are estimated at an average of \$180 per producer, \$3,443 per intermediary, and \$6,018 per retailer. With the exception of a small number of fishing operations, producer operations are single-establishment firms. Thus, average estimated costs per firm and per establishment are the same after rounding to the nearest dollar. Retailers subject to the proposed rule operate an average of just over eight establishments per firm. As a result, average estimated costs per retail firm also are just over eight times larger than average costs per establishment.

Table 6.--Estimated First-Year Implementation Costs Per Firm and Establishment

Lower range	Costs per	Upper range	Costs per
-------------	-----------	-------------	-----------

	firm	establishment	firm	establishment
Producer	\$180	\$180	\$443	\$443
Intermediary.	4,048	3,443	50,086	42,602
Retailer..	49,581	6,018	396,089	48,073

At the upper range, average estimated implementation costs per producer remain relatively small at \$443. Estimated costs for intermediaries are substantially larger, averaging \$50,086 per firm and \$42,602 per establishment. At an average of \$48,073, retailers have the highest average estimated costs per establishment. Retailers also have the highest average estimated costs per firm, \$396,089. Whether at the lower or upper range of estimated costs, the costs per firm and per establishment represent industry averages for aggregated segments of the supply chain. Large firms and establishments likely will incur higher costs relative to small operations due to the volume of commodities that they handle and the increased complexity of their operations. In addition, different types of businesses within each segment are likely to face different costs. Thus, the range of costs incurred by individual businesses within each segment is expected to be large, with some firms incurring only a fraction of the average costs and other firms incurring costs many times larger than the average. Comments submitted by retailers on the voluntary guidelines (67 FR 63367) suggest that USDA's range of average estimated costs per store is reasonable. These firms estimated costs at approximately \$26,000 to \$54,000 per store, while USDA's range of estimated costs is approximately \$6,000 to \$48,000 per store (Refs. 32, 33, and 34). Average costs per producer operation can be calculated according to the commodities that they produce (Table 7). Lower range costs average \$190 for livestock operations, \$103 for fish operations, and \$101 for fruit, vegetable, and peanut operations. At the upper range, average estimated costs are lowest for peanut producers (\$101) and highest for hog operations (\$2,241).

Table 7.--Estimated First-Year Implementation Costs Per Producer Operation

 Lower range Upper range

Producer type	costs	costs
Cattle.....	\$190	\$356
Sheep.....	190	231
Hogs.....	190	2,241
Fish.....	103	252
Fruit & Vegetable.....	101	510
Peanuts.....	101	101
All.....	180	443

The spread between the estimated lower and upper range costs is greatest for hog operations. The primary reason for this is that the lower range cost estimate reflects estimated recordkeeping burden and depends primarily on the number of operations rather than the volume of production per operation. The upper range cost estimate reflects estimated costs per head, and depends primarily on the volume of production [[Page 61968]] per operation. Because average production per hog operation is comparatively large relative to other types of producer operations, estimated upper range costs per hog producer operation are relatively larger. The lower range and upper range cost estimates do not reflect an absolute lower bound and an absolute upper bound on costs that may be incurred by affected firms during the first year of implementation of this proposed rule. Based on the wide disparity in comments received on the voluntary COOL guidelines and this rulemaking, the range of implementation costs for the proposed rule span from virtually nothing to many billions of dollars. Thus, USDA developed a range of cost estimates that reflects its assessment of costs that are reasonably likely to be incurred during the first year of implementation. USDA believes that the major cost drivers for the proposed rule occur when livestock or covered commodities are transferred from one firm to another, when livestock or covered commodities are commingled in the production or marketing process, and when products are assembled and then redistributed to retail stores. In part, we believe that some requirements of the proposed rule will be accomplished by firms using essentially the same processes and practices as are currently used, but with information on country of origin claims added to the processes. This adaptation generally would require relatively small marginal costs for recordkeeping and identification systems. In other cases, however, firms may need to revamp current operating processes to implement the proposed rule. For example, a processing or packing plant may need to sort incoming products by country of origin in addition to weight, grade, color, or other quality factors. This may require adjustments to plant operations, line processing, product handling, and storage. Ultimately, we anticipate that a mix of

solutions will be implemented by industry participants to effectively meet the requirements of the proposed rule. Therefore, we anticipate that direct incremental costs for the proposed rule likely will fall in the middle to upper end of the estimated range of \$582 million to \$3.9 billion. One regulatory alternative considered by AMS would be to narrow the definition of a processed food item, thereby increasing the scope of commodities covered by the proposed rule. This could be achieved, for example, by deleting from the definition of a processed food item ``a retail item derived from a covered commodity that has undergone a physical or chemical change, and has a character that is different from that of the covered commodity.''

There is insufficient information available to determine the cost impacts of expanding the number of items that would require country of origin labeling. There is, however, an indicator that provides a partial picture of how costs would increase with a wider scope of covered commodities. Altering the definition of a processed food item as indicated above would expand the scope of coverage to virtually all pork items, many of which would otherwise be excluded because they have undergone a physical or chemical change such as curing or smoking. This alternative would increase the scope of pork products required to be labeled at retail to virtually the entire carcass. As a result, the pounds of pork requiring retail labeling would increase from 2.2 billion pounds to 5.9 billion pounds. Upper range costs to retailers would increase by \$258 million, a 166 percent cost increase to retailers and a 38 percent cost increase to the pork supply chain. Supply chains for the other covered commodities likely would experience similar types of cost increases. Another alternative for narrowing the definition of a processed food item would be to strike from the definition the phrase ``a covered commodity that has been combined with * * * other covered commodities.''

In other words, mixed products would require country of origin labeling. This would greatly increase the burden of providing and substantiating country of origin information. When products are mixed, the burden of tracking and identifying labeling information rises as a multiple of the number of commodities in the product and the number of countries of origin for each commodity. Given the wide array of mixed products available, the range of countries of origin for the component ingredients and the lack of available data, quantifying the cost impacts of this alternative is not possible. Nonetheless, USDA expects that the costs would be large. A converse regulatory alternative would be to broaden the definition of a processed food item, thereby decreasing the scope of commodities covered by the proposed rule. Accordingly, such an alternative would decrease implementation costs for the proposed rule. At the retail level and to a lesser extent at the intermediary level, cost

reductions would be at least partly proportional to the reduction in the volume of production requiring retail labeling. Start-up costs for retailers and many intermediaries likely would be little changed by a narrowing of the scope of commodities requiring labeling because firms would still need to modify their recordkeeping, production, warehousing, distribution, and sales systems to accommodate the requirements of the proposed rule for those commodities that would require labeling under the proposed definitions. Ongoing maintenance and operational costs, however, likely would decrease in some proportion to a decrease in the number of items covered by the proposed rule. On the other hand, implementation costs for the vast majority of agricultural producers would not be affected by a change in the definition of a processed food item. This is because USDA assumes that virtually all affected producers would seek to retain the option of selling their products through supply channels for retailers subject to the proposed rule.

USDA expects that further broadening the definition of a processed food item would have a relatively small impact on the incremental cost estimates. Reducing the number of items requiring labeling by expanding the definition of a processed food item would have a minimal impact on the estimated costs for producers and intermediaries; altering this definition would have the greatest impact on estimated retailer costs. However, the definition developed for this rule has taken into account comments from retailers and has resulted in excluding products that would be more costly and troublesome for retailers to provide country of origin information.

In any case, little information is available to determine the extent to which the volume of covered commodities changes under alternative definitions of a processed food item. Therefore, there is little basis for quantifying the cost impacts of changing the definition.

Another alternative considered by AMS would be to require that suppliers provide an affidavit for each transaction to the immediate subsequent recipient certifying that the country of origin claims and, if applicable, designations of wild or farm-raised, being made are truthful and that the required records are being maintained. USDA does not have an estimate of the number of transactions that would be impacted. Assuming, however, costs of just \$0.001 per pound of product sold by producers and intermediaries, and assuming that commodities are transferred at least twice between intermediaries, costs would increase by more than \$500 million compared to the alternative of having no affidavits. This would nearly double USDA's estimated lower range [[Page 61969]] costs for the proposed rule, and increase the estimated upper range costs by more than 12 percent. Effects on the economy: The previous section estimated the direct, incremental costs of the proposed rule to

the affected firms in the supply chains for the covered commodities. While these costs are important to those directly involved in the production, distribution, and marketing of covered commodities, they do not represent net costs to the U.S. economy or net costs to the affected entities for that matter.

Several analyses have examined the potential market level impacts of the COOL legislation. Lusk and Anderson (Ref. 36) analyzed the effects of mandatory COOL on the U.S. livestock sector by varying the magnitude of the incremental increases in costs and the share of these direct costs incurred by the producer and the combined processor/retailer segments of the beef and pork sectors. There are similarities between their approach and the approach used herein, which is discussed below. In particular, Lusk and Anderson examined market effects stemming from a range of incremental increases in costs for the beef and pork sectors. Their analysis did not, however, include other covered commodities, such as fruit and vegetables, commodities directly affected by changes in livestock production, like corn and soybeans, or the effect of mandatory COOL legislation on the rest of the U.S. economy. Also, the model used by Lusk and Anderson to analyze the impacts on the poultry, beef and pork sectors together did not enable the effects of mandatory COOL on consumers or on U.S. welfare to be estimated. Grier and Kohl (Ref. 37) examined the impact of mandatory COOL on the U.S. pork sector. Their analysis assessed impacts on employment, the environment, and hog production but did not do so in an integrated framework. As a result, their study does not account for the pork sector's adjustment to changes in consumption and production patterns. In addition, the major impacts of their study result from their assumption that mandatory COOL would cause U.S. imports of Canadian feeder pigs to cease. USDA finds this assumption to be implausible because there is no credible evidence that mandatory COOL, at least as outlined under the proposed rule, will lead to a cessation of the hog trade between Canada and the United States.

The results of these analyses, while instructive, are limited in their usefulness because they only represent the results from an incomplete or partial adjustment of the agriculture sector and the U.S. economy to mandatory COOL. These analyses are not comprehensive in their coverage of affected commodity sectors, focusing on the livestock sector for instance. Nor are the analyses comprehensive in their depiction of the linkages between the covered commodities and the rest of the U.S. economy and consequently their depiction of the overall economic adjustments that occur as a result of COOL. Consequently the results from these analyses are not readily comparable to USDA's analysis of the impacts of the proposed rule on the U.S. economy discussed below.

With respect to assessing the effect of this rule on the economy as a whole, it is important to understand that a significant portion of the costs directly incurred by the affected entities take the form of expenditures for additional production inputs, such as payments to others whether for increased hours worked or for products and services provided. As such, these direct, incremental costs to affected entities do not represent losses to the economy but rather transfers of money from one economic agent to another. As a result, the direct costs incurred by the participants in the supply chains for the covered commodities do not measure the impact of this rule on the economy as a whole. Instead, the relevant measure is the extent to which the proposed rule reduces the amount of goods and services that can be produced throughout the U.S. economy from the available supply of inputs and resources. Even from the perspective of the directly affected entities, the direct, incremental costs do not present the whole picture. Initially, the affected entities will have to bear the full cost of implementing the proposed rule. However, over time as the economy adjusts to the requirements of the proposed rule, the burden facing suppliers will be reduced as their production level and the prices they receive change. What is critical in assessing the effect of this rule on the affected entities over the longer run is to determine the extent to which the entities are able to pass these costs on to others and consequently how the demand for their commodities is affected. Conceptually, suppose that all the increases in costs from the proposed rule were passed on to consumers in the form of higher prices and that consumers continued to purchase the same quantity of the affected commodities from the same marketing channels. Under these conditions, the suppliers of these commodities would not suffer any net loss from the proposed rule even if the increases in their operating costs were quite substantial. However, other industries might face losses as consumers may spend less on other commodities. It is unlikely, however, absent the proposed rule leading to changes in consumers' preferences for the covered commodities, that consumers will maintain their consumption of the covered commodities in the face of increased prices. Rather, consumers will likely reduce their consumption of the covered commodities. The resulting changes in consumption patterns will in turn lead to changes in production patterns and the allocation of inputs and resources throughout the economy. The net result, once all these changes have occurred, is that the total amount of goods and services produced by the U.S. economy will be less than before. To analyze the effect of the changes resulting from the proposed rule on the total amount of goods and services produced throughout the U.S. economy in a global context, USDA utilized a computable general equilibrium (CGE) model developed by ERS. The

ERS CGE model includes all the covered commodities and the products from which they are derived, as well as non-covered commodities that will be indirectly affected by the rule, such as poultry and feed grains. Peanuts, however, are aggregated with oilseeds in the model, and there is no meaningful way to modify the model to account for the impacts of the proposed rule on peanut production, processing, and consumption. The peanut sector, however, accounts for only 0.2 percent to 0.3 percent of the total estimated incremental costs for all directly impacted entities. Thus, omitting the direct costs on the peanut sector is expected to have negligible impacts with respect to estimated impacts on the overall U.S. economy. The ERS CGE model traces the impacts from an economic ``shock,' ' in this case an incremental increase in operating costs, through the U.S. agricultural sector and the U.S. economy to the rest of the world and back through the inter-linking of economic sectors. By taking into account the linkages among the various sectors of the U.S. and world economies, a comprehensive assessment can be made of the economic impact on the U.S. economy of the proposed rule implementing COOL. The model reports resulting economic changes after a ten-year period of adjustment. The results of this analysis indicate that the proposed rule implementing [[Page 61970]] COOL after the economy has had a period of ten years to adjust will have a more limited impact on the overall U.S. economy than the direct costs for the first year, alone, would suggest. Under the assumption that COOL will not change consumers' preferences for the covered commodities, USDA estimates that the overall costs to the U.S. economy of the proposed rule will, in terms of a reduction in consumers' purchasing power, range from \$138 million to \$596 million. This represents the cost to the U.S. economy after all transfers and adjustments in consumption and production patterns have occurred. Overall costs to the U.S. economy after a decade of adjustment are significantly smaller than the first-year implementation costs to directly affected firms. This result does not imply that the implementation costs for directly affected firms have been substantially reduced from the initial estimates. While some of the increase in their costs will be offset by reduced production and higher prices over the longer term, the suppliers of the covered commodities will still bear direct implementation costs. Prior to full economic adjustment, economic impacts on directly affected firms in the short term are expected to be larger than impacts on the economy after adjustment has taken place. USDA estimates of the overall costs to the U.S. economy are based on our estimates of the incremental increases in operating costs to the affected firms. The model does not permit supply channels for covered commodities that require country of origin information to be separated from supply channels for the same commodities that do

not require country of origin labeling. Thus, the direct cost impacts must be adjusted to accurately reflect changes in operating costs for all firms supplying covered commodities. Table 8 reports these adjusted estimates in terms of their percentage of total operating costs for each of the directly impacted sectors. The percentages used are based on our estimate of the percentage change in operating costs for the entire supply channel and are adjusted between the various segments of each covered commodities' supply chain (producers, processors, importers, and retailers) based on USDA's estimate of how the costs of the regulation will be distributed among them. As a result, the cost changes shown in Table 8 only approximate the range of direct cost estimates previously described. In addition, USDA assumes that domestic and foreign suppliers of the affected commodities located at the same level or segment of the supply chain face the same percentage increases in their operating costs. In reality, imported covered commodities likely would enjoy some measure of competitive advantage as a portion of those products already enter the United States with country of origin labels.

Table 8.--High and Low Increase in Operating Costs by Supply Chain

	Segment and Industry				
	Pork &	Beef	lamb	Fish	Fresh produce
	Percent change				
Low Cost:					
Farm Supply:					
Domestic.....	0.50		0.25	0.25	0.25
Imported.....	0.50		0.25	0.25	0.25
Processing:					
Domestic.....	0.50		0.50	(\1\)	(\1\)
Imported.....	0.50		0.50	(\1\)	(\1\)
Retail:					
Domestic.....	0.50		0.50	0.50	0.75
Imported.....	0.50		0.50	0.50	0.75
High Cost:					
Farm Supply:					
Domestic.....	2.00		1.00	1.00	1.00
Imported.....	2.00		1.00	1.00	1.00
Processing:					
Domestic.....	2.00		2.00	(\1\)	(\1\)
Imported.....	2.00		2.00	(\1\)	(\1\)
Retail:					
Domestic.....	2.00		2.00	2.00	3.00
Imported.....	2.00		2.00	2.00	3.00

\1\ Not applicable.

As discussed above, consumption and production patterns will change as the incremental increases in operating costs outlined above are passed on, at least partially, to consumers in the form of higher prices by the affected firms. The increases in the prices of the covered commodities will in turn cause exports and domestic consumption and ultimately domestic production to fall. The results of our analysis indicate that U.S. production of all the covered commodities combined will decline from 0.15 percent to 0.92 percent and that the overall price level for these commodities (a weighted average index of the prices received by suppliers for their commodities) will increase by 0.06 percent to 0.64 percent. The structure of the model does not enable changes in net revenues to suppliers of the covered commodities to be determined. Likewise, the model cannot be used to determine the extent to which the reductions in production arise from some firms going out of business or all firms cutting back on their production. To provide an indication of what effect this will have on the suppliers of the covered commodities, USDA estimated changes in revenues using the model results. The result of this calculation shows that revenues to suppliers of the covered commodities will decline by \$175 million to \$195 million. The costs of the proposed rule, however, will not be shared equally by all suppliers of the covered commodities. The distribution of the final costs of the rule will be determined by several factors in addition to the [[Page 61971]] direct costs of complying with the rule. These are the availability of substitute products not covered by the rule and the relative competitiveness of the affected suppliers with respect to other sectors of the U.S and world economies. Although the increases in operating costs are the initial drivers behind the changes in consumption and production patterns resulting from this rule, they do not, as can be seen by examining Table 9, determine which commodity sector will be most affected. Table 9 contains the percentage changes in prices, production, exports, and imports for the three main segments of the marketing chain by covered commodity. The results are reported for the low and high end of the estimated range of increases in incremental costs. Table 9 also presents results for chicken, which is not a covered commodity but is a substitute for beef, lamb, and pork and as a result could be significantly affected by changes in consumption of these products. As mentioned previously, in the ERS CGE model peanuts are included with oilseed products. As a result they are not included in this analysis.

Table 9.--Estimated Impact of Proposed Rule on U.S. Production, Prices and Trade of Impacted Sectors \1\

	Price	Production	Exports	Imports
Percent change from the base year				

Low Incremental Cost:				
Fruits and Vegetables..	0.11	-0.15	-0.17	-0.20
Cattle and Sheep.....	0.05	-0.14	-0.11	-0.06
Broilers.....	0.01	0.01	-0.00	0.02
Hogs.....	0.05	-0.07	-0.05	0.01
Beef and Lamb.....	0.07	-0.15	-0.05	-0.10
Chicken.....	0.01	0.04	0.01	0.03
Pork.....	0.06	-0.17	-0.09	-0.12
Fish.....	0.15	-0.26	-0.12	0.01
High Incremental Cost:				
Fruits and Vegetables..	0.43	-0.49	-0.62	-0.26
Cattle and Sheep.....	0.2	-0.3	-0.37	-0.08
Broilers.....	0.02	0.03	-0.00	0.03
Hogs.....	0.07	-0.15	-0.16	-0.03
Beef and Lamb....	0.27	-0.34	-0.40	-0.25
Chicken.....	0.11	0.07	-0.07	0.16
Pork.....	0.26	-0.39	-0.48	-0.08
Fish.....	0.64	-0.92	-1.04	0.22

Fish and fruit and vegetables are affected relatively more than the other covered commodities even though the increases in incremental costs summed over their entire supply chains are lower than the sum of the increases in incremental costs for the supply chains of the other covered commodities. This is because the demands for fruits and vegetables and fish are more responsive to changes in prices than are the demands for the other covered commodities. Demand for U.S. fish production is particularly sensitive to increases in prices because in the model, U.S. fish suppliers have less of a competitive advantage over their foreign counterparts than do the U.S. suppliers of the other covered commodities. As a result, fish imports increase as a result of the estimated cost increases, causing U.S. production to fall more (one percent) than it would if imports of fish had declined similar to imports of all the other covered commodities.

U.S. poultry suppliers are also affected by the proposed rule even though they are not directly covered by the rule. This is because consumers will substitute chicken for beef and pork when their prices increase relative to the price of chicken. Consequently, the increases in pork and beef prices cause consumer demand to shift towards chicken. The resulting increase in demand for chicken causes the price of both chicken and

broilers and ultimately their production to increase. To put these impacts in more meaningful terms, the percentage changes reported in Table 9 were converted into changes in current prices and quantities produced, imported, and exported (Table 10). The base values used for calculating these changes are the projected values for 2003 as reported in the USDA Agricultural Baseline Projections to 2012 (Ref. 38), except for fish, which comes from Fisheries of the United States, 2001 (Ref. 23). The base values in Table 10 vary from those reported in Table 4 because they are derived from projected levels reported in the USDA Agricultural Baseline for 2003, while values in Table 4 represent actual reported values for 2002 as compiled by the USDA's National Agricultural Statistical Service. Baseline values were used to accommodate the structure of the model. Increases in prices for all covered commodities are small, less than one cent per pound. Production changes are similarly small, less than 100 million pounds for all covered commodities except fresh fruit and vegetables, which under the high cost ``shock'' declines by over a billion pounds. The declines in production of cattle and hogs mirroring the declines in beef and pork production fall by less than 200,000 head.

BILLING CODE 3410-02-P

[[Page 61972]]

[GRAPHIC] [TIFF OMITTED] TP30OC03.006

BILLING CODE 3410-02-C

[[Page 61973]]

The estimated changes in prices and production cause revenues for the fruit and vegetable industry to decline an estimated \$12 million to \$18 million. The estimated changes in production and prices cause revenues to beef cattle producers to fall \$28 million and revenues from production and sale of beef to fall an estimated \$70-\$62 million dollars. In addition, revenues to hog production fall slightly, down \$2 million to \$8 million and revenues from production and sale of pork fall \$58 million to \$68 million. Finally, revenues to the fish industry fall \$5 million to \$12 million. While revenues to the suppliers of the covered commodities fall, revenues to broiler and chicken suppliers increase. This is because the quantity of chicken demanded increases as consumers reduce their consumption of beef and pork in response to the increase in prices. The resulting changes in chicken and broiler production and prices, however, are relatively small (Table 10). The increase in both chicken and broiler prices is less than one cent, while broiler production increases by up to 1 million birds and chicken

production increases by up to 23 million pounds. The increases in prices and production will cause revenues for broiler production to increase by an estimated \$3 million to \$8 million and revenues from chicken production to increase an estimated \$26 to \$94 million. The increase in the prices of all affected commodities (except for fish) causes both exports and imports to decline (Table 10). Although these declines are small, they are for the most part smaller than the declines in U.S. production of these commodities, except for chicken where U.S. production increases. The results presented here are based on one possible modeling framework. Consequently, the results depend on the representation of supply and demand relationships embedded in the ERS CGE model. Other types of modeling frameworks likely would yield different results. Unless these frameworks, however, are comprehensive in their coverage of both covered commodities and the linkages of these industries to the rest of the U.S. and world economy, their results would only represent the outcomes from a partial or incomplete adjustment of the economy to COOL. While their analysis may be useful for identifying the key factors for determining how specific industries or sub-sectors would be affected, they would not be useful for determining the effects of COOL on these industries and sub-sectors after the U.S. economy has completely adjusted. Other CGE models that are as detailed in their coverage of the covered commodities as the ERS model may also provide different results than the ones presented here. In particular, the direction of change in the prices received by hog, cattle and fruit and vegetable producers may change if these models make a different assumption about the ability of firms to influence input and output prices. The ERS CGE model assumes that firms behave as though they have no influence on either their input or output prices. On the other hand, for example, a model that assumed that processors could influence their input and output prices could find that prices received by agricultural producers decreased because processors passed their cost increases down to their suppliers rather than increase the price they charged their customers.

Finally, the estimates of the economic impact of the proposed rule on the United States are based on the assumption that country of origin labeling does not shift consumer demand toward the covered commodities of U.S.-origin. This assumption is based on the earlier finding that there was no compelling evidence to support the view that mandatory country of origin labeling will increase the demand for U.S. products. Despite this lack of evidence, we examined how much of a shift or increase in demand for U.S.-origin labeled commodities would have to occur to offset the costs imposed on the economy by the proposed rule. We found that consumer demand for the covered commodities would have to increase from 0.4 percent to 2.1 percent to offset the costs to the economy of COOL as outlined

in the proposed rule. The 0.4 percent to 2.1 percent increase in demand for covered commodities represents the overall increase in demand from all outlets. If there were such a demand increase for domestically produced covered commodities, however, it would presumably occur at those retailers required to provide country of origin information. As previously discussed, USDA estimates the percentage share of covered commodities sold by retailers subject to this proposed rule at 41.4 percent of total consumption. This suggests that demand at covered retailers actually would have to increase by 1 percent to 5.1 percent, assuming no change in demand at other domestic outlets or in export demand. As previously mentioned, our estimates of the overall economic effects of the proposed rule are derived from a CGE model developed by ERS. The results from this model show the changes in production and consumption patterns after the economy has adjusted to the incremental increase in costs (medium run results). In reality, such changes occur over time and the economy does not adjust instantaneously. The results of this analysis describe and compare the old production and consumption patterns to the new ones, but do not reflect any particular adjustment process. In addition, these results assume that the only changes that are occurring in the agriculture sector or the economy as a whole are those that are driven by COOL. The purpose of using the ERS CGE model is not to forecast what prices and production will be over any particular time frame, but to explore the implications of COOL on the U.S. economy and capture the direction of the changes. The ERS CGE model is global in the sense that all regions in the world are covered. Production and consumption decisions in each region are determined within the model following behavior that is consistent with economic theory. Multilateral trade flows and prices are determined simultaneously by world market clearing conditions. This permits prices to adjust to ensure that total demand equals total supply for each commodity in the world.

The general equilibrium feature of the model means that all economic sectors--agricultural and non-agricultural--are included. Hence, resources can move among sectors, thereby ensuring that adjustments in the feed grains and livestock sectors, for example, are consistent with adjustments in the processed sectors. The model is static and this implies that gains (or losses) from stimulating (or inhibiting) investment and productivity growth are not captured. The model allows the existing resources to move among sectors, thereby capturing the effects of re-allocation of resources that results due to policy changes. However, because the model fixes total available resources it underestimates the long-run effects of policies on aggregate output. The ERS CGE model uses data from the Global Trade Analysis Project (GTAP database, version 5.2). The database represents the world as of 1997 and includes

information on macroeconomic variables, production, consumption, trade, demand and supply elasticities, and policy measures. The GTAP database includes 57 commodities and 76 country/regions. For this analysis, the regions were represented by the following country/regions: the United States, Canada, [[Page 61974]] Mexico, the European Union-15 (EU), Japan, Australia and New Zealand, South America (including Central America), and the rest of the World. The agricultural sector is subdivided into the following eight commodity aggregations: food grains (rice, wheat), feed grains (corn, barley, sorghum), oil crops (oilseeds, peanuts), vegetables and fresh fruits, other crops (sugar, cotton), bovine cattle and sheep, hogs and poultry. The non-agricultural sector is subdivided into the following seven commodity aggregations, cattle and sheep meats (beef, veal, lamb and mutton), pork, chicken, vegetable oils and fats, other processed food products, beverages and tobacco, and fish. The remaining sectors in the database were aggregated into one broad category of manufacturing.

Regulatory Flexibility Analysis

This proposed rule has been reviewed under the requirements of the Regulatory Flexibility Act (RFA)(5 U.S.C. 601 et seq.). The purpose of RFA is to consider the economic impact of a proposed rule on small businesses and evaluate alternatives that would accomplish the objectives of the rule without unduly burdening small entities or erecting barriers that would restrict their ability to compete in the marketplace. AMS believes that this rule will have a significant economic impact on a substantial number of small entities. As such, AMS has prepared the following regulatory analysis of the rule's likely economic impact on small entities pursuant to the RFA. The proposed rule is the direct result of statutory obligations to implement the COOL provisions of the Farm Bill, which amended the Act by adding Subtitle D--Country of Origin Labeling.

The COOL provisions of the Farm Bill require USDA to issue regulations to implement a mandatory COOL program not later than September 30, 2004. The intent of this law is to provide consumers with additional information on which to base their purchasing decisions. Specifically, the law imposes additional Federal labeling requirements for covered commodities. Covered commodities include muscle cuts of beef (including veal), lamb, and pork; ground beef, ground lamb, and ground pork; farm-raised fish and shellfish; wild fish and shellfish; perishable agricultural commodities (fresh and frozen fruits and vegetables); and peanuts. Under current Federal laws and regulations, country of origin labeling is not universally required for the commodities covered by this rule. In particular, labeling of U.S. origin is not mandatory, and

labeling of imported products at the consumer level is required only in certain circumstances. Thus, USDA has not identified any Federal rules that would duplicate or overlap with this proposed rule.

Many aspects of the mandatory COOL provisions are prescriptive and provide little regulatory discretion in rulemaking. The law requires a statutorily defined set of food retailers to label the country of origin of covered commodities. The law also prohibits USDA from using a mandatory identification system to verify the country of origin of covered commodities. However, the proposed rule provides flexibility in allowing market participants to decide how best to implement mandatory COOL in their operations. In addition, market participants other than those retailers defined by the statute may decide to sell products through marketing channels not subject to the proposed rule. The objective of the proposed rule is to regulate the activities of retailers (as defined by the law) and their suppliers so that retailers will be able to fulfill their statutory obligations. The proposed rule requires retailers to provide country of origin information for all the covered commodities that they sell. It also requires all firms that supply covered commodities to these retailers to provide the retailers with the information needed for them to correctly label the covered commodities. In addition, all other firms in the supply chain for the covered commodities are potentially affected by the proposed rule, because country of origin information will need to be maintained and transferred along the entire supply chain. In general, the supply chains for the covered commodities consist of farms, fishing operations, processors, wholesalers, and retailers. A listing of the number of entities in the supply chains for each of the covered commodities can be found in Table 1. Retailers covered by this proposed rule must meet the definition of a retailer as defined by PACA. The PACA definition includes only those retailers handling fresh and frozen fruits and vegetables with an invoice value of at least \$230,000 annually. Therefore, the number of retailers impacted by this rule is considerably smaller than the total number of retailers nationwide. In addition, there is no requirement that firms in the supply chain must supply their products to retailers subject to the proposed rule. Because country of origin information will have to be passed along the supply chain and made available to consumers at the retail level, we assume that each participant in the supply chain as identified in Table 1 will likely encounter recordkeeping costs as well as changes or modifications to their business practices. Absent more detailed information about each of the entities within each of the marketing channels, USDA assumes that all such entities will be affected to some extent even though some

producers and suppliers may choose to market their products through channels not subject to the requirements of this proposed rule. Therefore, USDA estimates that approximately 1,377,000 establishments owned by approximately 1,339,000 entities will be either directly or indirectly impacted by this rule. This proposed rule potentially will have an impact on all participants in the supply chain, although the nature and extent of the impact will depend on the participant's function within the marketing chain. The rule likely will have the greatest impact on retailers and intermediaries (handlers, processors, wholesalers, and importers), while the impact on individual producers is likely to be relatively small. USDA estimates direct incremental costs for the proposed rule will likely range from a total of \$582 million to \$3.9 billion. There are two measures used by the Small Business Administration (SBA) to identify businesses as small: sales receipts or number of employees. In terms of sales, SBA classifies as small those grocery stores with less than \$23 million in annual sales and specialty food stores with less than \$6 million in annual sales (13 CFR 121.201). Warehouse clubs and superstores with less than \$23 million in annual sales are also defined as small. SBA defines as small those agricultural producers with less than \$750,000 in annual sales and fishing operations with less than \$3.5 million in annual sales. Of the other businesses potentially impacted by the proposed rule, SBA classifies as small those manufacturing firms with less than 500 employees and wholesalers with less than 100 employees. Retailers: While there are many potential retail outlets for the covered commodities, food stores, warehouse clubs, and superstores are the primary retail outlets for food consumed at home. In fact, food stores, warehouse clubs, and superstores account for 82.5 percent of all food consumed at home (Ref. 29). Therefore, the number of these stores provides an indicator of the number of entities potentially impacted by this proposed rule. The 1997 Economic Census (Ref. 39) shows there were 67,916 food store, warehouse club, and superstore firms operated for the entire year. Most of these firms, [[Page 61975]] however, would not be subject to the requirements of this proposed rule. Retailers covered by this proposed rule must meet the definition of a retailer as defined by PACA. The number of such businesses is estimated from PACA data (Ref. 18). The PACA definition of a retailer includes only those retailers handling fresh and frozen fruits and vegetables with an invoice value of at least \$230,000 annually. Therefore, the number of retailers impacted by this rule is considerably smaller than the number of food retailers nationwide. USDA data indicate that there are 4,512 retail firms as defined by PACA that would thus be subject to the proposed rule. As explained below, most small food store firms have been excluded from mandatory COOL based on the PACA definition of a

retailer. The 1997 Economic Census data provide information on the number of food store firms by sales categories. Of the 67,916 food store, warehouse club, and superstore firms, USDA estimates that there are 66,868 firms with annual sales meeting the SBA definition of a small firm and 1,048 other firms. USDA has no information on the identities of these firms, and the PACA database does not identify firms by North American Industry Classification System code that would enable matching with Economic Census data. USDA assumes, however, that all or nearly all of the 1,048 large firms would meet the definition of a PACA retailer because most of these larger food retailers likely would handle fresh and frozen fruits and vegetables with an invoice value of at least \$230,000 annually. Thus, USDA estimates that 77 percent (3,464 out of 4,512) of the retailers subject to the proposed rule are small. However, this is only 5.2 percent of the estimated total number of small food store retailers. In other words, an estimated 94.8 percent of small food store retailers would not be subject to the requirements of the proposed rule. USDA estimates retailer costs under the proposed rule from a low of \$224 million to a high of \$1.8 billion. Costs per retail firm are estimated to range from a low of \$49,581 to a high of \$396,089. At the low end of the range of estimates, additional costs arise from setting up and maintaining a recordkeeping system, which USDA expects will be accomplished by modification of businesses' current recordkeeping systems. Average startup costs for setting up such recordkeeping systems are estimated at \$1,309 and recurring costs are estimated at \$48,272 per retail firm. On an establishment basis, average startup costs are estimated at \$159 and recurring costs are estimated at \$5,859 per retail establishment. At the high end of the range, implementation costs are estimated at \$48,073 per retail establishment. Costs at the upper range of the range of estimates cannot be disaggregated into startup and recurring costs, but rather represents total first-year costs associated with implementation of the proposed rule.

Retailers will face recordkeeping costs, costs associated with supplying country of origin information to consumers, costs associated with segmenting products by country of origin, and possibly additional handling costs. These cost increases may result in changes to retailer business practices. The proposed rule does not specify the systems that affected retailers must put in place to implement mandatory COOL. Instead, retailers will be given flexibility to develop their own systems to comply with the proposed rule. There are many ways in which the proposed rule's requirements may be met and firms will likely choose the least cost method in their particular situation to comply with the proposed rule.

Wholesalers: Any establishment that supplies retailers with one or more of the covered commodities will be required by

retailers to provide country of origin information so that retailers can accurately supply that information to consumers. Of wholesalers potentially impacted by the proposed rule, SBA defines those having less than 100 employees as small. Importers of covered commodities will also be impacted by the proposed rule and are categorized as wholesalers in the data.

The 2000 Statistics of U.S. Businesses (Ref. 9) provides information on wholesalers by employment size. For meat and meat products wholesalers there is a total of 3,185 firms. Of these, 3,057 firms have less than 100 employees. This provides information that indicates that approximately 96 percent of meat wholesalers are considered as small firms using the SBA definition.

For fish and seafood wholesalers there are a total of 2,897 firms. Of these, 2,837 firms have less than 100 employees. Therefore, approximately 98 percent of the fish and seafood wholesalers could be considered as small firms.

For fresh fruit and vegetable wholesalers there are a total of 5,355 firms. Of these, 5,113 firms have less than 100 employees, resulting in approximately 95 percent of the fresh fruit and vegetable wholesalers being classified as small businesses.

In addition to specialty wholesalers that primarily handle a single covered commodity, there are also general-line wholesalers that handle a wide range of products. We assume that these general-line wholesalers likely handle at least one and possibly all of the covered commodities. Therefore, we include the number of general-line wholesale businesses among entities affected by the proposed rule.

The 2000 Statistics of U.S. Businesses provides information on general-line grocery wholesalers by employment size. There were 3,183 firms in total, and 2,983 firms had less than 100 employees. This results in approximately 94 percent of the general-line grocery wholesalers being classified as small businesses. In general, over 94 percent of the wholesalers are classified as small businesses. This indicates that most of the wholesalers impacted by mandatory COOL may be considered as small entities as defined by SBA.

USDA estimates that intermediaries (importers and domestic wholesalers, handlers, and processors) will incur costs under the proposed rule ranging from a low of \$123 million to a high of \$1.517 billion. Costs per intermediary firm are estimated to range from a low of \$4,048 to a high of \$50,086. As with retailers, lower-range costs for intermediaries arise from setting up and maintaining a recordkeeping system. Average startup costs for setting up such recordkeeping systems are estimated at \$1,309 and recurring costs are estimated at \$2,739 per intermediary firm. Average startup costs are estimated at \$1,113 and recurring costs are estimated at \$2,330 per

intermediary establishment. At the high end of the range, implementation costs are estimated at \$42,602 per intermediary establishment. Costs at the upper range of estimates cannot be disaggregated into startup and recurring costs, but rather represent total first year costs associated with implementation of the proposed rule.

Wholesalers will encounter increased costs in complying with the mandatory COOL. Wholesalers will likely face increased recordkeeping costs, costs associated with supplying country of origin information to retailers, costs associated with segmenting products by country of origin, and possibly additional handling costs. Some of the comments received on the voluntary guidelines (67 FR 63367) from wholesalers and retailers have indicated that retailers may choose to source covered commodities from a single supplier that procures the covered commodity from only one country in an attempt to minimize the costs associated with complying with mandatory COOL. These changes in business practices [[Page 61976]] could lead to the further consolidation of firms in the wholesaling sector. The proposed rule does not specify the systems that affected wholesalers must put in place to implement mandatory COOL. Instead, wholesalers will be given flexibility to develop their own systems to comply with the proposed rule. There are many ways in which the proposed rule's requirements may be met. In addition, wholesalers have the option of supplying covered commodities to retailers or other suppliers that are not covered by the proposed rule. Manufacturers: Any manufacturer that supplies retailers or wholesalers with a covered commodity will be required by retailers to provide country of origin information to retailers so that the information can be accurately supplied to consumers. Most manufacturers of covered commodities will likely print country of origin information on retail packages supplied to retailers. Of the manufacturers potentially impacted by the proposed rule, SBA defines those having less than 500 employees as small.

The 2000 Statistics of U.S. Businesses (Ref. 9) provides information on manufacturers by employment size. For livestock processing and slaughtering there is a total of 3,098 firms. Of these, 2,981 firms have less than 500 employees. This suggests that 96 percent of livestock processing and slaughtering operations would be considered as small firms using the SBA definition.

For seafood product preparation and packaging there is a total of 741 firms. Of these, 714 have less than 500 employees and thus, 96 percent are considered to be small firms.

For frozen fruit, juice, and vegetable manufacturers there is a total of 163 firms. There are 131 of these firms that are considered to be small. This suggests that 80 percent of the

frozen fruit, juice, and vegetable manufacturers would be considered as small using the SBA definition.

There are a total of 140 roasted nuts and peanut butter manufacturers. Of these 140 firms, 121 could be considered as small. This results in 86 percent of the operations being considered small.

In general, approximately 95 percent of the manufacturers are classified as small businesses. This indicates that most of the manufacturers of covered commodities impacted by the proposed rule would be considered as small entities as defined by SBA.

Manufacturers are included as intermediaries and additional costs for these firms are discussed in the previous section addressing wholesalers. Manufacturers of covered commodities will encounter increased costs in complying with the mandatory COOL. Manufacturers like wholesalers will likely face increased recordkeeping costs, costs associated with supplying country of origin information to retailers, costs associated with segmenting products by country of origin, and possibly additional handling costs. Some of the comments received on the voluntary guidelines (67 FR 63367) from manufacturers have indicated that they may limit the number of sources from which they procure raw products. These changes in business practices could lead to the further consolidation of firms in the manufacturing sector. The proposed rule does not specify the systems that affected manufacturers must put in place to implement mandatory COOL. Instead, manufacturers will be given flexibility to develop their own systems to comply with the proposed rule. There are many ways in which the proposed rule's requirements may be met.

Producers: Producers of the covered commodities fish, perishable agricultural commodities, and peanuts are directly impacted by this proposed rule. Producers of cattle, hogs, and sheep, while not directly covered by this rule will nevertheless be impacted because covered meat commodities are produced from livestock. Whether directly or indirectly impacted, these producers will more than likely be required by handlers and wholesalers to create and maintain country of origin information and transfer it to them so that they can readily transfer this information to retailers.

SBA defines a small agricultural producer as having annual receipts less than \$750,000. The 1997 Census of Agriculture (Ref. 16) shows there are 1,011,809 farms that raise beef cows, and USDA estimates that 20,696 of these have annual receipts greater than \$750,000. Thus, at least 98 percent of these beef cattle farms would be classified as small businesses according to the SBA definition. Similarly, an estimated 93 percent of hog farms would be considered as small and an estimated 99 percent of sheep and lamb farms would be considered as small. Based on

1997 Census of Agriculture information, 92 percent of vegetable farms, 94 percent of fruit, nut, and berry farms, and 91 percent of peanut farms could be classified as small. Based on 1998 Census of Aquaculture data, USDA estimates that at least 90 percent of fish and shellfish farming operations are small. Similar information on fishing operations is not known to exist. However, it is assumed that the majority of these producers would be considered as small businesses.

At the production level, agricultural producers and fish harvesters will need to create, if necessary, and maintain records to establish country of origin information for the products they sell. This information will need to be conveyed as the products move through the supply chains. In general, additional producer costs include the cost of establishing and maintaining a recordkeeping system for the country of origin information, animal or product identification, and labor and training. Based on USDA's knowledge of the affected industries as well as comments received on the voluntary guidelines (67 FR 63367), USDA believes that producers already have much of the information available that could be used to substantiate country of origin. Cattle, hog, and lamb and sheep producers may have a slightly larger burden for recordkeeping than fruit, vegetable, and peanut producers because animals can be born in one country and fed and slaughtered in another country.

The costs for producers are expected to be relatively limited and should not have a larger impact on small producers than large producers. Producer costs are estimated to range from \$235 million to \$578 million, or an estimated \$180 to \$443 per firm. As with other affected businesses, lower-range costs for producers arise from setting up and maintaining a recordkeeping system. Average startup costs for setting up such recordkeeping systems are estimated at \$60 and recurring costs are estimated at \$121 per producer operation. In the case of producers, the firm and the establishment are considered as one and the same, with the exception of a small number of fishing operations. Thus, costs per firm and per establishment are the same after rounding to the nearest dollar. At the high end of the range, implementation costs are estimated \$443 per producer operation. Costs at the upper range of estimates cannot be disaggregated into startup and recurring costs, but rather represent total first year costs associated with implementation of the proposed rule.

Economic impact on small entities: Information on sales or employment is not available for all firms or establishments shown in Table 1. However, it is reasonable to expect that this proposed rule will have a substantial impact on a number of small businesses. At the wholesale and retail levels of the supply chain, the efficiency of these operations may be impacted as [[Page 61977]] products are segregated in receiving, storage,

processing, and shipping operations. For packers and processors handling products from multiple origins, there may also be a need to operate separate shifts for processing products from different origins, or to split processing within shifts. In either case, costs are likely to increase. Records will need to be maintained to ensure that accurate country of origin information is retained throughout the process and to permit compliance and enforcement review. Even if only domestic origin products or products from a single country of origin are handled, there may be additional procurement costs to source supplies from a single country of origin. Additional procurement costs may include higher transportation costs due to longer shipping distances and higher acquisition costs due to supply and demand conditions for products from a particular country of origin, whether domestic or foreign. These additional costs may result in a number of consolidations within the processor, manufacturer, and wholesaler sectors for these covered commodities. Also, to comply with the proposed rule, retailers may seek to limit the number of entities from which they purchase covered commodities.

Additional alternatives considered: As previously mentioned, the COOL provisions of the 2002 Farm Bill leaves very little regulatory discretion in defining who is directly covered by this rule. The law explicitly identifies those retailers required to provide their customers with country of origin information for covered commodities (namely, retailers as defined by PACA).

The law also requires that any person supplying a covered commodity to a retailer provide information to the retailer indicating the country of origin of the covered commodity. Again, the law provides no discretion regarding this requirement for suppliers of covered commodities to provide information to retailers. The proposed rule has no mandatory requirement, however, for any firm other than statutorily defined retailers to make country of origin claims. In other words, no producer, processor, wholesaler, or other supplier is required to make and substantiate a country of origin claim provided that the commodity is not ultimately sold in the form of a covered commodity at the establishment of a retailer subject to the proposed rule. Thus, for example, a processor and its suppliers may elect not to maintain country of origin information nor to make country of origin claims, but instead sell products through marketing channels not subject to the proposed rule. Such marketing alternatives include foodservice, export, and retailers not subject to the proposed rule. USDA estimates that 41.4 percent of U.S. food sales occur through retailers subject to the proposed rule, with the remaining 58.6 percent sold by retailers not subject to the proposed rule or sold as food away

from home. Additionally, food product sales into export markets provide marketing opportunities for producers and intermediaries that are not subject to the provisions of the proposed rule. The law provides no discretionary authority for granting differing implementation timetables that could be used to ease the burdens on small entities. The law states that retailers subject to the statute are to label covered commodities with country of origin information beginning September 30, 2004. For retailers to meet this requirement, their suppliers will need to provide the necessary information to the retailers on or before this date. Retailers and their suppliers also will need to have the information and records necessary to substantiate all country of origin claims ultimately made at subject retailers. In short, the supply chains for the covered commodities will need to have the necessary systems and records in place to enable valid, verifiable country of origin labeling by retailers of covered commodities beginning September 30, 2004.

The proposed rule does not dictate systems that firms will need to put in place to implement the proposed requirements. Thus, different segments of the affected industries will be able to develop their own least-cost systems to implement COOL requirements. For example, one firm may depend primarily on manual identification and paper recordkeeping systems, while another may adopt automated identification and electronic recordkeeping systems.

The proposed rule has no requirements for firms to report to USDA. Compliance audits will be conducted by USDA at firms' places of business. As stated previously, required records may be kept by firms in the manner most suitable to their operations and may be hardcopy documents, electronic records, or a combination of both. In addition, the proposed rule provides flexibility regarding where records may be kept. Such flexibility should reduce costs for small entities to comply with the proposed rule. In effect, the proposed rule is a performance standard rather than a design standard. The proposed rule requires that covered commodities at subject retailers be labeled with country of origin information, that suppliers of covered commodities provide such information to retailers, and that retailers and their suppliers maintain records and information sufficient to verify all country of origin claims. The proposed rule provides flexibility regarding the manner in which country of origin information may be provided by retailers to consumers. The proposed rule provides flexibility in the manner in which required country of origin information is provided by suppliers to retailers, and in the manner in which records and information are maintained to substantiate country of origin claims. Thus, the proposed rule provides the maximum flexibility practicable to enable small entities to minimize the costs of the proposed rule on their operations.

Paperwork Reduction Act

This proposed rule announces that AMS is requesting OMB approval for a new information collection and contains information collection provisions that are subject to review by OMB under PRA (44 U.S.C. 3501-3520). A description of these provisions is given below with an estimate of the annual recordkeeping burden.

Title: Recordkeeping and Records Access Requirements for Producers and Food Facilities.

OMB Number: 0581-new.

Type of Request: New collection.

Expiration Date: Three years from the date of approval.

Abstract: The country of origin labeling provision in the 2002 Farm Bill requires that specified retailers inform consumers as to the country of origin of covered commodities. This proposed rule requires that records and other documentary evidence used to substantiate an origin claim must, upon request, be made available to USDA representatives in a timely manner during normal business hours and at a location that is reasonable in consideration of the products and firm under review. Any person engaged in the business of supplying a covered commodity to a retailer (i.e., including but not limited to growers, distributors, handlers, packers, and processors), whether directly or indirectly, must make country of origin information available to the retailer and must maintain records to establish and identify the immediate previous source and immediate subsequent recipient of a covered commodity, in such a way that identifies the product unique to that transaction, for a period of 2 years from the date of the transaction. For an imported covered commodity, the [[Page 61978]] importer of record as determined by CBP, must ensure that records: (1) Provide clear product tracking from the port of entry into the United States to the immediate subsequent recipient, and (2) substantiate country of origin claims and, if applicable, designations of wild or farm-raised and must maintain such records for a period of 2 years from the date of the transaction. Records and other documentary evidence (e.g., shipping receipt from central warehouse) relied upon at the point of sale to establish a product's country of origin and, if applicable, designation of wild or farm-raised, must be maintained at the point of sale or otherwise be reasonably available to any duly authorized representative of USDA at the facility for at least 7 days following the retail sale of the product. In addition, records which identify the retail supplier, the product unique to that transaction, and the country of origin information, and, if applicable, designation of wild or farm-raised, must be maintained for a

period of 2 years from the date the origin declaration is made at retail. Such records may be located at the retailer's point of distribution, or at a warehouse, central office or other off-site location.

Description of Recordkeepers: Individuals who supply covered commodities, whether directly to retailers or indirectly through other participants in the marketing chain, are required to establish and maintain country of origin information for the covered commodities and supply this information to retailers. As a result, producers, handlers, manufacturers, wholesalers, importers, and retailers of covered commodities will be impacted by this proposed rule.

Burden: USDA estimates that approximately 1,377,000 establishments owned by approximately 1,339,000 firms would be either directly or indirectly impacted by this rule. In general, the supply chain for each of the covered commodities includes agricultural producers or fish harvesters, processors, wholesalers, importers, and retailers. Imported products may be introduced at any level of the supply chain. Other intermediaries, such as auction markets, may be involved in transferring products from one stage of production to the next. USDA estimates that the proposed rule's paperwork burden will be incurred by the number and types of firms and establishments listed in Table 11 of this document.

Table 11.--Costs Associated With Paperwork Burden

Initial costs	Maintenance Establishments	Type costs	Firms Total costs
Producers:			
Cattle & Calves...			
1,032,670	61,847,680	1,032,670	133,951,509
			195,799,189
Sheep & Lambs.....			
64,170	3,843,208	64,170	8,323,732
			12,166,940
Hogs & Pigs.....			
67,150	4,021,683	67,150	8,710,279
			12,731,962
Farm-Raised Fish & Shellfish			
3,540	212,014	3,540	459,187
			671,201
Fishing.....			
76,499	4,581,605	76,452	3,305,62
			7,887,230
Fruits & Vegetables.....			
47,596	2,850,574	47,596	1,967,230
			4,817,804

Peanut Farming.....	12,221	731,928	12,221	505,116	1,237,045
Intermediaries:					
Stockyards, Dealers & Market Agencies	7,775	10,177,475	7,775	6,489,500	16,666,975
Livestock Processing & Slaughtering	3,098	4,055,282	3,358	56,055,927	60,111,209
Meat & Meat Product Wholesale	3,185	4,169,165	3,305	2,758,559	6,927,724
Seafood Product Preparation & Packaging	741	969,969	823	686,927	1,656,896
Fish & Seafood Wholesale....	2,897	3,792,173	2,980	2,487,294	6,279,467
Frozen Fruit, Juice & Vegetable Mfg.	163	213,367	257	214,508	427,875
Fresh Fruit & Vegetable Wholesale	9,026	11,815,034	12,879	10,749,617	22,564,651
Roasted Nuts & Peanut Butter Mfg.	140	183,260	159	132,711	315,971
Peanut Wholesalers.....	83	108,647	83	69,277	177,924
General Line Grocery Wholesalers	3,183	4,166,547	3,993	3,332,807	7,499,354
Retailers.....	4,512	5,906,208	37,176	217,802,585	23,708,793
Totals:					
Producers.....	1,303,846	78,088,693	1,303,799	157,222,678	235,311,371
Handlers, Processors, & Wholesalers	30,291	39,650,919	35,612	82,977,128	122,628,047
Retailers.....	4,512	5,906,208	37,176	217,802,585	223,708,793
Grand Total.....					

1,338,649 123,645,820 1,376,587 458,002,391 581,648,211

The impacted firms and establishments will broadly incur two types of costs. First, firms will incur initial or start-up costs to comply with the proposed rule. USDA assumes that initial costs will be borne by each firm, even though a single firm may operate more than one establishment. Second, enterprises will incur additional recordkeeping costs associated with storing and maintaining records on an ongoing basis. USDA assumes that these activities will take place in each establishment operated by each affected business. With respect to initial recordkeeping costs, USDA believes that most producers currently maintain many of the types of records that would be needed to substantiate country of origin claims. However, producers do not typically record or pass along country of origin information to subsequent purchasers. Therefore, producers will incur some additional incremental costs to record, maintain, and transfer country of origin information to substantiate country of origin claims made at retail. Because much of the necessary recordkeeping is already developed during typical farm, ranch, and fishing operations, USDA estimates that the incremental costs for producers to supplement existing records with country of origin information will be relatively small. Examples of initial or start-up costs would be any additional recordkeeping burden needed to record the required country of origin information and transfer this information to handlers, processors, wholesalers, or retailers.

USDA estimates that producers will need 4 hours to establish a system for organizing records to carryout the [[Page 61979]] purposes of these regulations. This additional time would be required to modify existing recordkeeping systems to incorporate any added information needed to substantiate country of origin claims. Although not all farm products ultimately will be sold at retail establishments covered by this proposed rule, USDA assumes that virtually all producers will wish to keep their marketing options as flexible as possible. Thus, USDA assumes that all producers of covered commodities or livestock (in the case of the covered meat commodities) will establish recordkeeping systems sufficient to substantiate country of origin claims. USDA also recognizes that some operations will require substantially more than 4 hours to establish their recordkeeping systems. In particular, USDA believes that livestock backgrounders, stockers, and feeders will face a greater burden in establishing recordkeeping systems. These types of operations will need to track country of origin information for animals brought into the operation as well as for animals sold from the operation, increasing the burden of substantiating country of origin claims. Conversely,

operations such as fruit and vegetable farms that produce only U.S. products likely will require little if any change to their existing recordkeeping systems in order to substantiate country of origin claims. Overall, USDA believes that 4 hours represents a reasonable estimate of the average additional time that will be required across all types of producers. For producers, USDA assumes that the added work needed to initially set up a recordkeeping system for country of origin information is primarily a bookkeeping task. This task may be performed by independent bookkeepers, or in the case of operations that perform their own bookkeeping, will require equivalent skills. The Bureau of Labor Statistics (BLS) (Ref. 40) publishes wage rates for bookkeepers, accounting, and auditing clerks. USDA assumes that this wage rate represents the cost for producers to hire an independent bookkeeper. In the case of producers who currently perform their own bookkeeping, USDA assumes that this wage rate represents the opportunity cost of the producers' time for performing these tasks. The January 2001 wage rate, the most recent data available, is estimated at \$11.94 per hour. For this analysis, an additional 25.4 percent is added to the wage rate to account for total benefits which includes social security, unemployment insurance, workers compensation, etc. The estimate of this additional cost to employers is published by the BLS (Ref. 40). At 4 hours per firm and a cost of \$14.97 per hour, initial recordkeeping costs to producers are estimated at approximately \$78 million to modify existing recordkeeping systems in order to substantiate country of origin claims.

The recordkeeping burden on handlers, processors, wholesalers, and retailers is expected to be more complex than the burden most producers face. These operations will need to maintain country of origin information on the covered commodities purchased and subsequently furnish that information to the next participant in the supply chain. This will require adding additional information to a firm's bills of lading, invoices, or other records associated with movement of covered commodities from purchase to sale. Similar to producers, however, USDA believes that most of these operations already maintain many of the types of necessary records in their existing systems. Thus, USDA assumes that country of origin information will require only modification of existing recordkeeping systems rather than development of entirely new systems.

The Label Cost Model Developed for FDA by RTI International (Refs. 41 and 42) is used to estimate the cost of including additional country of origin information to an operation's records. USDA assumes a limited information, one-color redesign of a paper document will be sufficient to comply with the proposed rule's recordkeeping requirements. The number of hours

required to complete the redesign is estimated to be 29 with an estimated cost at \$1,309 per firm. While the cost will be much higher for some firms and lower for others, USDA believes that \$1,309 represents a reasonable average cost for all firms. Based on this, USDA estimates that the initial recordkeeping costs to intermediaries such as handlers, processors, and wholesalers (importers are included with wholesalers) will be approximately \$40 million, and initial recordkeeping costs at retail will be approximately \$6 million. The total initial recordkeeping costs for all firms are thus estimated at approximately \$124 million.

In addition to these one-time costs to establish recordkeeping systems, enterprises will incur additional recordkeeping costs associated with storing and maintaining records. These costs are referred to as maintenance costs in Table 11. Again, the marginal cost for producers to maintain and store any additional information needed to substantiate country of origin claims is expected to be relatively small.

For wild fish harvesters, fruit and vegetable producers, and peanut producers, country of origin generally is established at the time that the product is harvested, and thus there is no need to track country of origin information throughout the production lifecycle of the product. This group of producers is estimated to require an additional 4 hours a year, or 1 hour per quarter, to maintain country of origin information.

Compared to wild fish harvesters, fruit and vegetable producers, and peanut producers, USDA expects that fish farmers and livestock producers will incur higher costs to maintain country of origin information. Wild fish, fruits, vegetables, and peanuts are generally harvested once and then shipped by the producer to the first handler. In contrast, farm-raised fish and livestock can and often do move through several geographically dispersed operations prior to final sale for processing or slaughter. Cattle, for example, typically change ownership between 2 to 3 times before they are slaughtered and processed. Fish and livestock may be acquired from other countries by U.S. producers, complicating the task of tracking country of origin information. Because animals are frequently sorted and regrouped at various stages of production and may change ownership several times prior to slaughter, country of origin information will need to be maintained on animals as they move through their lifecycle. Thus, USDA expects that the recordkeeping burden for fish farmers and livestock producers will be higher than it will be for producers of other covered commodities. USDA estimates that these producers will require an additional 12 hours a year, or 1 hour per month, to maintain country of origin records. Again, this is an average for all enterprises. Some will require substantially more time, while others will require little additional time to maintain country of origin information.

USDA assumes that farm labor will primarily be responsible for maintaining country of origin information at producers' enterprises. NASS data (Ref. 43) are used to estimate average farm wage rates--\$8.62 per hour for livestock workers and \$8.24 per hour for other crops workers. Applying the rate of 25.4 percent to account for benefits results in an hourly rate of \$10.81 for livestock workers and \$10.33 for other crops workers. (Wage rates for fish workers were unavailable, so the average wage rate for livestock workers is used.) Assuming 12 hours of labor per year for livestock and farmed fish operations and 4 hours per year for all other [[Page 61980]] operations results in estimated total annual maintenance costs to producers of \$157 million.

USDA expects that intermediaries such as handlers, processors, and wholesalers will face higher costs per enterprise to maintain country of origin information compared to costs faced by producers. Much of the added cost is attributed to the larger average size of these enterprises compared to the average producer enterprise. In addition, these intermediaries will need to track products both coming into and going out of their businesses.

With the exception of livestock processing and slaughtering establishments, USDA estimates the maintenance burden hours for country of origin recordkeeping to be 52 hours per year per establishment. For this part of the supply chain, the recordkeeping activities are on-going and are estimated to require an additional hour a week. USDA expects, however, that livestock processing and slaughtering enterprises will experience a more intensive recordkeeping burden. These enterprises disassemble carcasses into many individual cuts, each of which must maintain its country of origin identity. In addition, businesses that produce ground beef, lamb, and pork may commingle product from multiple origins, requiring careful tracking and recordkeeping to substantiate the country of origin information provided to retailers. Maintenance of the recordkeeping system at these establishments is estimated to total 1,040 hours per establishment, or 20 hours per week.

Maintenance activities will include inputting, tracking, and storing country of origin information for each covered commodity. Since this is mostly an administrative task, USDA estimates the cost using the BLS wage rate for administrative support occupations (\$12.80 per hour with an additional 25.4 percent added to cover overhead costs for a total of \$16.05 per hour). This occupation category includes stock and inventory clerks and record clerks. Coupled with the assumed hours per establishment, the resulting total annual maintenance costs to handlers, processors, and wholesalers and other intermediaries are estimated at approximately \$83 million.

Retailers will need to supply country of origin information for each covered commodity sold at each store. Therefore, additional recordkeeping maintenance costs are believed to impact each establishment. Because tracking of the covered commodities will be done daily, USDA believes that an additional hour of recordkeeping activities for country of origin information will be incurred daily at each retail establishment. This results in an estimated 365 additional hours per year per establishment. Using the BLS wage rate for administrative support occupations (\$12.80 per hour with an additional 25.4 percent added to cover overhead costs for a total of \$16.05 per hour) results in total estimated annual maintenance costs to retailers of \$218 million.

The total maintenance recordkeeping costs for all enterprises are thus estimated at approximately \$458 million. The total first-year recordkeeping burden is calculated by summing the initial and maintenance costs. The total recordkeeping costs are estimated for producers at approximately \$235 million; for handlers, processors, and wholesalers at approximately \$123 million; and for retailers at approximately \$224 million. USDA estimates the total recordkeeping cost for all participants in the supply chain for covered commodities at \$582 million for the first year, with subsequent maintenance costs of \$458 million per year.

The recordkeeping burden estimated for the voluntary country of origin guidelines (67 FR 63367) was \$2 billion for the first year. There are several reasons that the estimated recordkeeping burden for this proposed rule is substantially lower. First, the estimated number of affected entities is fewer due to the use of less aggregated data to estimate the numbers of impacted firms and establishments. Second, the estimated wage rates are lower to reflect more accurately the types of work skills expected to be needed to implement and maintain the records needed for this proposed rule. Third, the estimated number of labor hours is reduced overall as a result of reassessing expected hours needed to carry out recordkeeping tasks associated with this proposed rule.

Annual Reporting and Recordkeeping Burden for the First Year (Initial): Public reporting burden for this initial recordkeeping set up is estimated to average 4.7 hours per year per individual recordkeeper.

Estimated Number of Firms Recordkeepers: 1,338,649.

Estimated Total Annual Burden: 6,224,671 hours.

Annual Reporting and Recordkeeping Burden (Maintenance): Public reporting burden for this recordkeeping storage and maintenance is estimated to average 24.2 hours per year per individual recordkeeper.

Estimated Number of Establishments Recordkeepers: 1,376,634.

Estimated Total Annual Burden: 33,294,392 hours.

AMS is committed to implementation of the Government Paperwork Elimination Act (GPEA) to provide the public with the option to submit or transact business electronically to the extent practicable. This new information collection has no forms and is only for recordkeeping purposes. Therefore, the provisions of an electronic submission alternative is not required by GPEA.

AMS is soliciting comments from all interested parties concerning these recordkeeping requirements. Comments are specifically invited on: (1) Whether the recordkeeping is necessary for the proper operation of this program, including whether the information would have practical utility; (2) the accuracy of USDA's estimate of the burden of the recordkeeping requirements, including the validity of the methodology and assumptions used; (3) ways to enhance the quality, utility, and clarity of the records to be maintained; and (4) ways to minimize the burden of the recordkeeping on those who are to maintain and/or make the records available, including the use of appropriate automated, electronic, mechanical, or other technological recordkeeping techniques or other forms of information technology. Comments concerning the recordkeeping requirements contained in this proposed rule should reference the date and page number of this issue of the Federal Register and should be sent to Country of Origin Labeling Program, Room 2092-S; Agricultural Marketing Service (AMS), USDA; STOP 0249; 1400 Independence Avenue, SW.; Washington, DC 20250-0249, or by facsimile to 202/720-3499, or by e-mail to cool@usda.gov. Comments sent to the above location should also be sent to the Desk Officer for Agriculture, Office of Information and Regulatory Affairs, Office of Management and Budget, New Executive Office Building, 725 17th Street, NW., Room 725, Washington, DC 20503. All responses to this action will be summarized and included in the request for OMB approval. All comments will become a matter of public record.

References

1. Wimberley, R.C., et al. Food from Our Changing World: The Globalization of Food and How Americans Feel About It. February 2003, <http://frwebgate.access.gpo.gov/cgi-bin/leaving.cgi?from=leavingFR.html&log=linklog&to=http://sasw.cass.ncsu.edu/global-food/foodglobal.html>.

[[Page 61981]]

2. Umberger, W.J., D.M. Feuz, C.R. Calkins, and B.M. Sitz. ``Country-of-Origin Labeling of Beef Products: U.S. Consumers' Perceptions,' paper presented at the 2003 FAMPS Conference: ``Emerging Roles for Food Labels: Inform, Protect, Persuade,''

Washington, DC, March 20-21, 2003.

3. Schupp, A. and J. Gillespie. ``Consumer Attitudes Toward Potential Country-of-Origin Labeling of Fresh or Frozen Beef,`` Journal of Food Distribution Research, 33(3): 34-44, 2001.

4. Blank, S.C. 1998. The End of Agriculture in the American Portfolio. Westport, CT: Quorum Books.

5. VanSickle, J., R. McEowen, C.R. Taylor, N. Harl, and J. Connor. ``Country of Origin Labeling: A Legal and Economic Analysis,`` International Agricultural Trade and Policy Center, University of Florida, PBTC 03-05, May 2003.

6. Umberger, W.J., D.M. Feuz, C.R. Calkins, and B.M. Sitz. ``Fact Sheet on Country-of-Origin Labeling Research,`` May 15, 2003.

7. Plain, R. and G. Grimes. ``Benefits of COOL to the Cattle Industry,`` University of Missouri-Columbia, AEWB 2003-2, May 21, 2003.

8. U.S. Census Bureau. 2001 County Business Patterns for the United States.

9. U.S. Census Bureau. 2000 Statistics of U.S. Businesses.

10. U.S. Census Bureau. 2000 Nonemployer Statistics.

11. NASS, USDA. Cattle. January 2003.

12. NASS, USDA. Sheep and Goats. January 2003.

13. NASS, USDA. Quarterly Hogs and Pigs. December 2002.

14. GIPSA, USDA. Packers and Stockyards Statistical Report, 2000 Reporting Year. October 2002.

15. NASS, USDA. 1998 Census of Aquaculture.

16. NASS, USDA. 1997 Census of Agriculture.

17. AMS, USDA. Peanut marketing agreement data.

18. AMS, USDA. Perishable Agricultural Commodities Act database.

19. Sparks Companies Inc., ``Cool Cost Assessment,`` Prepared for the Sparks/CBW COOL Consortium, April 2003.

20. Hayes, D.J. and S.R. Meyer. ``Impact of Mandatory Country of Origin Labeling on U.S. Pork Exports.``

21. Davis, E.E. ``Estimate of Start-up Costs for Country of Origin Labeling Requirements to the Texas Beef Cattle and Beef Sectors.``

22. NASS, USDA. Livestock Slaughter 2002 Summary. March 2003.

23. NMFS, NOAA, U.S. Dept. of Commerce. Fisheries of the United States 2001. September 2002.

24. Food and Agriculture Organization. FAO Yearbook, Fishery Statistics, Aquaculture Production 2001. Vol 92/2.

25. NASS, USDA. Agricultural Statistics, 2002.

26. ERS, USDA. Food Consumption (Per Capita) Data System, <http://frwebgate.access.gpo.gov/cgi-bin/leaving.cgi?from=leavingFR.html&log=linklog&to=http://www.ers.usda.gov/Data/foodconsumption/datasystem.asp>.

27. Dohlman, E. ``Peanut Consumption Rebounding Amidst Market Uncertainties.'' In ERS, USDA Agricultural Outlook, March 2002.

28. ERS, USDA. Food CPI, Prices and Expenditures: Food Service as a Share of Food Expenditures, <http://frwebgate.access.gpo.gov/cgi-bin/leaving.cgi?from=leavingFR.html&log=linklog&to=http://www.ers.usda.gov/Briefing/CPIFoodAndExpenditures/Data/table12.htm>.

29. ERS, USDA. Food CPI, Prices and Expenditures: Sales of Food at Home by Type of Outlet, <http://frwebgate.access.gpo.gov/cgi-bin/leaving.cgi?from=leavingFR.html&log=linklog&to=http://www.ers.usda.gov/Briefing/CPIFoodAndExpenditures/Data/table16.htm>.

30. National Pork Board. Pork Facts 2002/2003. November 2002.

31. FSIS, USDA. Mandatory Country of Origin Labeling of Imported Fresh Muscle Cuts of Beef and Lamb. January 2000.

32. Weis Markets, Inc. Comments on Guidelines for Voluntary Country of Origin Labeling Program. Letter to Secretary Veneman, May 1, 2003.

33. Schnuck Markets, Inc. Comments on Guidelines for Voluntary Country of Origin Labeling Program. Letter to Secretary Veneman, April 7, 2003.

34. Wegmans Food Markets. Country of Origin Labeling Comments. April 7, 2003.

35. Spartan Stores, Inc. Comments on Guidelines for Voluntary Country of Origin Labeling Program. April 9, 2003.

36. Lusk, J. L. and J. D. Anderson. ``Country of Origin Labeling on Meat Producers and Consumers,'' Purdue University, Department of Agricultural Economics, Staff Paper 03-07, June 2003.

37. Grier, Kevin and David M. Kohl. Impacts of U.S. Country of Origin Labeling on U.S. Hog Producers. Virginia Polytechnic Institute and State University and the George Morris Centre. April 2003.

38. Office of the Chief Economist, USDA. USDA Agricultural Baseline Projections to 2012. Staff Report WAOB-2003-1. February 2003.

39. Bureau of Labor Statistics, Department of Labor, National Compensation Survey, 3rd quarter 2003, Employer Cost for Employee Compensation.

40. U.S. Census Bureau. 1997 Economic Census. Retail Trade Subject Series. Establishment and Firm Size. EC97R44S-SZ. Issued October 2000.

41. Food and Drug Administration. ``Establishment and Maintenance of Records Under the Public Health Security and Bioterrorism Preparedness and Response Act of 2002,'' proposed rule. May 9, 2003.

42. RTI, International 2000. FDA Labeling Cost Model: Final Report. Revised April 2002.

43. NASS, USDA. Farm Labor, August 15, 2003.

List of Subjects in 7 CFR Part 60

Agricultural commodities, Fish, Food labeling, Meat and meat products, Peanuts, Reporting and recordkeeping requirements.

For the reasons set forth in the preamble, 7 CFR chapter I is proposed to be amended by adding part 60 to read as follows:

PART 60--COUNTRY OF ORIGIN LABELING

Subpart A--General Provisions

Definitions

Sec.

- 60.101 Act.
- 60.102 AMS.
- 60.103 Beef.
- 60.104 Canned.
- 60.105 Consumer package.
- 60.106 Covered commodity.
- 60.107 USDA.
- 60.108 Farm-raised fish.
- 60.109 Food service establishment.
- 60.110 Ground beef.
- 60.111 Ground lamb.
- 60.112 Ground pork.
- 60.113 Hatched.
- 60.114 Ingredient.
- 60.115 Lamb.
- 60.116 Legibly.
- 60.117 Perishable agricultural commodity.
- 60.118 Person.
- 60.119 Pork.
- 60.120 Processed (for fish and shellfish).
- 60.121 Processed food item.
- 60.122 Produced.
- 60.123 Produced in any country other than the United States.
- 60.124 Production step.
- 60.125 Raised.
- 60.126 Retailer.
- 60.127 Secretary.
- 60.128 Slaughter.
- 60.129 United States.
- 60.130 United States country of origin.

60.131 U.S. flagged vessel.
60.132 Vessel flag.
60.133 Waters of the United States.
60.134 Wild fish and shellfish.

Country of Origin Notification

60.200 Country of origin notification.
60.300 Markings.

Recordkeeping

60.400 Recordkeeping requirements.
Subpart B--[Reserved]

Authority: 7 U.S.C. 1621 et seq.

Subpart A--General Provisions

Definitions

Sec. 60.101 Act.

Act means the Agricultural Marketing Act of 1946, (7 U.S.C. 1621 et seq.).

Sec. 60.102 AMS.

AMS means the Agricultural Marketing Service, United States Department of Agriculture.

Sec. 60.103 Beef.

Beef means meat produced from cattle, including veal.

Sec. 60.104 Canned.

Canned means packaged in a shelf-stable container including but not limited to cans, jars, flexible containers (e.g., pouches), or semi-rigid containers.

[[Page 61982]]

Sec. 60.105 Consumer package.

Consumer package means any container or wrapping in which a covered commodity is enclosed for the delivery and/or display of such commodity to retail purchasers.

Sec. 60.106 Covered commodity.

(a) Covered commodity means:

- (1) muscle cuts of beef (including veal), lamb, and pork;
- (2) ground beef, ground lamb, and ground pork;
- (3) farm-raised fish and shellfish (including fillets, steaks, nuggets, and any other flesh);
- (4) wild fish and shellfish (including fillets, steaks, nuggets, and any other flesh);
- (5) perishable agricultural commodities as defined by the Perishable Agricultural Commodities Act of 1930 (7 U.S.C. 499a(b)); and

(6) peanuts;

(b) Covered commodities are excluded from this part if the commodity is an ingredient in a processed food item.

Sec. 60.107 USDA.

USDA means the United States Department of Agriculture.

Sec. 60.108 Farm-raised fish.

Farm-raised fish means fish or shellfish that have been harvested in controlled or selected environments, including ocean-ranched (e.g., penned) fish and shellfish confined in managed beds; and fillets, steaks, nuggets, and any other flesh from a farm-raised fish or shellfish.

Sec. 60.109 Food service establishment.

Food service establishment means a restaurant, cafeteria, lunch room, food stand, saloon, tavern, bar, lounge, or other similar facility operated as an enterprise engaged in the business of selling food to the public. Similar food service facilities include salad bars, delicatessens, and other food enterprises located within retail establishments that provide ready-to-eat foods that are consumed either on or outside of the retailer's premises.

Sec. 60.110 Ground beef.

Ground beef has the meaning given the term in 9 CFR 319.15(a), i.e., chopped fresh and/or frozen beef with or without seasoning and without the addition of beef fat as such, and containing no more than 30 percent fat, and containing no added water, phosphates, binders, or extenders.

Sec. 60.111 Ground lamb.

Ground lamb means comminuted lamb of skeletal origin that is produced in conformance with all applicable Food Safety Inspection Service labeling guidelines.

Sec. 60.112 Ground pork.

Ground pork means comminuted pork of skeletal origin that is produced in conformance with all applicable Food Safety Inspection Service labeling guidelines.

Sec. 60.113 Hatched.

Hatched means emerged from the egg.

Sec. 60.114 Ingredient.

Ingredient means a component either in part or in full, of a finished retail food product.

Sec. 60.115 Lamb.

Lamb means meat, other than mutton (or yearling mutton), produced from sheep.

Sec. 60.116 Legibly.

Legibly means English language text that can be easily read by a consumer.

Sec. 60.117 Perishable agricultural commodity.

Perishable agricultural commodity means fresh and frozen fruits and vegetables of every kind and character that have not

been manufactured into articles of food of a different kind or character and includes cherries in brine as defined by the Secretary in accordance with trade usages.

Sec. 60.118 Person.

Person means any individual, partnership, corporation, association, or other legal entity.

Sec. 60.119 Pork.

Pork means meat produced from hogs.

Sec. 60.120 Processed (for fish and shellfish).

Processed in the case of wild and farm-raised fish and shellfish means any process that effects substantial transformation as defined by the U.S. Bureau of Customs and Border Protection (CBP).

Sec. 60.121 Processed food item.

Processed food item means:

- (a) a retail item derived from a covered commodity that has undergone a physical or chemical change, and has a character that is different from that of the covered commodity; or
- (b) a retail item derived from a covered commodity that has been combined with: other covered commodities; or other substantive food components (e.g., chocolate, stuffing), resulting in a distinct retail item that is no longer marketed as a covered commodity, provided that the addition of components that enhance or represent further steps in the preparation of the product for consumption, such as water, seasonings, sugars, or breading would not in itself exclude a covered commodity from labeling under this subpart.

Sec. 60.122 Produced.

Produced means in the case of fresh and frozen fruits and vegetables, and peanuts means grown.

Sec. 60.123 Produced in any country other than the United States.

Produced in any country other than the United States means in the case of:

(a) Beef, Pork, and Lamb: born, raised, and/or slaughtered outside the United States.

(b) Farm-raised Fish and Shellfish: hatched, raised, harvested, and/or processed outside the United States, and the waters of the United States.

(c) Wild Fish and Shellfish: harvested and/or processed outside the United States, and the waters of the United States, or by a vessel not registered in the United States.

(d) Fresh and frozen fruits and vegetables: grown outside the United States.

(e) Peanuts: grown outside the United States.

Sec. 60.124 Production step.

Production step means, in the case of:

(a) Beef, pork and lamb: born, raised, and slaughtered.

(b) Farm-raised fish and shellfish: hatched, raised, harvested, and processed.

(c) Wild fish and shellfish: harvested and processed.

Sec. 60.125 Raised.

Raised means in the case of:

(a) Beef, pork, and lamb: the period of time from birth until slaughter.

(b) Farm-raised fish and shellfish: grown by means of aquaculture management techniques from the period of time from hatched to harvested.

Sec. 60.126 Retailer.

Retailer means any person licensed as a retailer under the Perishable Agricultural Commodities Act of 1930 (7 U.S.C. 499a(b)).

Sec. 60.127 Secretary.

Secretary means the Secretary of Agriculture of the United States or any person to whom the Secretary's authority has been delegated.

Sec. 60.128 Slaughter.

Slaughter means the point in which a livestock animal is prepared into meat products for human consumption.

[[Page 61983]]

Sec. 60.129 United States.

United States means the 50 States, the District of Columbia, the Commonwealth of Puerto Rico, the U.S. Virgin Islands, American Samoa, Guam, the Northern Mariana Islands, and any other Commonwealth, territory, or possession of the United States, and the waters of the United States as defined in Sec. 60.133.

Sec. 60.130 United States country of origin.

United States country of origin means in the case of:

(a) Beef: from animals born, raised, and slaughtered in the United States (including animals born and raised in Alaska and Hawaii and transported for a period not to exceed 60 days through Canada to the United States and slaughtered in the United States).

(b) Lamb and pork: from animals born, raised, and slaughtered in the United States.

(c) Farm-raised fish and shellfish: from fish or shellfish hatched, raised, harvested, and processed in the United States.

(d) Wild-fish and shellfish: from fish or shellfish harvested in the waters of the United States or by a U.S. flagged vessel and processed in the United States or aboard a U.S. flagged vessel.

(e) Fresh and frozen fruits and vegetables: from products grown in the United States.

(f) Peanuts: from products grown in the United States.

Sec. 60.131 U.S. flagged vessel.

U.S. flagged vessel means:

(a) Any vessel documented under chapter 121 of title 46, United States Code, or

(b) Any vessel numbered in accordance with chapter 123 of title 46, United States Code.

Sec. 60.132 Vessel flag.

Vessel flag means the country of registry for a vessel, ship, or boat.

Sec. 60.133 Waters of the United States.

Waters of the United States means those fresh and ocean waters contained within the 200-mile boundary of the Exclusive Economic Zone (EEZ) surrounding the United States.

Sec. 60.134 Wild fish and shellfish.

Wild fish and shellfish means naturally-born or hatchery-originated fish or shellfish released in the wild, and caught, taken, or harvested from non-controlled or non-selected waters or beds; and fillets, steaks, nuggets, and any other flesh from a wild fish or shellfish.

Country of Origin Notification

Sec. 60.200 Country of origin notification.

In providing notice of the country of origin as covered by the Act, the following requirements shall be followed by retailers:

(a) General. Each covered commodity offered for sale individually, in a bulk bin, carton, crate, barrel, cluster, or consumer package shall bear a legible declaration of the country of origin as set forth in this regulation.

(b) Exemptions. Food service establishments as defined in Sec. 60.109 are exempt from labeling under this subpart.

(c) Exclusions. A covered commodity is excluded from this subpart if it is an ingredient in a processed food item as defined in Sec. 60.121.

(d) Designation of Wild Fish and Farm-Raised Fish. The notice of country of origin for fish and shellfish shall include and distinguish between wild and farm-raised fish and shellfish as those terms are defined in this regulation.

(e) Labeling Covered Commodities of United States Origin.

(1) A covered commodity may only bear the declaration of "Product of the U.S." at retail if it meets the definition of United States Country of Origin as defined in Sec. 60.130.

(2) Products further processed or handled in a foreign country after meeting the requirements to be labeled as U.S.

origin as defined in Sec. 60.130 (e.g., born, raised, and slaughtered or grown) may bear the declaration of ``Product of the U.S.'' at retail provided the identity of the product is maintained along with records to substantiate the origin claims and the claim is consistent with other applicable Federal requirements.

(f) Labeling Imported Products. Imported covered commodities for which origin has already been established as defined by this law (e.g., born, raised, slaughtered or grown), shall retain their origin, as determined by CBP at the time the product entered the United States, through retail sale.

(g) Labeling Covered Commodities When the Product Has Entered the United States During the Production Process.

(1) Beef, Lamb, Pork:

(i) If an animal was born and/or raised in country X prior to slaughter or further raising and slaughter in the United States, the resulting meat products derived from that animal shall be labeled at retail as being imported from country X and shall include the production step(s) occurring in the United States. Alternatively, such products may be labeled to specifically identify the production step(s) occurring in the country other than the United States if the animal's identity was maintained along with records to substantiate the origin claims.

(ii) If an animal was born in country X and raised in country Y prior to slaughter or further raising and slaughter in the United States, the resulting meat products derived from that animal shall be labeled at retail as being imported from country Y and shall include the production step(s) occurring in the United States. Alternatively, such products may be labeled to specifically identify the production step(s) occurring in the country(ies) other than the United States if the animal's identity was maintained along with records to substantiate the origin claims.

(2) Wild fish and shellfish:

(i) If a covered commodity was harvested in the waters of the United States as defined in Sec. 60.133 or by a U.S. flagged vessel and processed in country X or onboard a country X flagged vessel, the product shall be labeled at retail as product of country X. Alternatively, the product may also be labeled to include the production step occurring in the United States if the product's identity was maintained along with records to substantiate the origin claims. The covered commodity shall also be labeled at retail to indicate that it was derived from wild fish and/or shellfish.

(ii) If a covered commodity was harvested in country X and processed in the United States or aboard a U.S. flagged vessel, the product shall be labeled at retail as being imported from country X and processed in the United States. The covered

commodity shall also be labeled at retail to indicate that it was derived from wild fish and/or shellfish.

(3) Farm-raised fish and shellfish:

(i) If a covered commodity was hatched in country X and raised, harvested, and/or processed in the United States, the product shall be labeled at retail as being imported from country X and shall include the production step(s) occurring in the United States. The covered commodity shall also be labeled at retail to indicate that it was derived from farm-raised fish and/or shellfish.

(ii) If a covered commodity was hatched, raised, and harvested in the United States and processed in country X, the product shall be labeled at retail as product of country X. Alternatively, the product may also be labeled to include the production step occurring in the United States if the product's identity was maintained along with

[[Page 61984]]

records to substantiate the origin claims. The covered commodity shall also be labeled at retail to indicate that it was derived from farm-raised fish and/or shellfish.

(h) Blended Products. For commingled or blended retail food items comprised of the same covered commodity (e.g., bagged lettuce, ground beef, shrimp) that are prepared from raw material sources having different origins, the label shall list alphabetically the countries of origin (as set forth in these regulations) for all raw materials contained therein.

(i) Remotely Purchased Products. For sales of a covered commodity in which the customer purchases a covered commodity prior to having an opportunity to observe the final package (e.g., Internet sales, home delivery sales, etc.), the retailer shall provide the country of origin notification at the time the product is delivered to the consumer.

Sec. 60.300 Markings.

(a) Country of origin declarations can either be in the form of a placard, sign, label, sticker, or other format that allows consumers to identify the country of origin and, if applicable, designation of wild or farm-raised, of particular covered commodities. The declaration of the country of origin of a product may be in the form of a statement such as ``Product of USA,'' ``Grown in Mexico,'' or may only contain the name of the country such as ``USA'' or ``Mexico'' provided it is in conformance with other existing Federal labeling laws.

(b) The declaration of the country of origin and, if applicable, the designation of wild or farm-raised, (e.g.,

placard, sign, label, sticker, band, twist tie, or other display) must be placed in a conspicuous location, so as to render it likely to be read and understood by a customer under normal conditions of purchase, and written in English; additional accompanying languages are permissible.

(c) The declaration of country of origin information and, if applicable, the designation of wild or farm-raised, may be typed, printed, or handwritten provided it is in conformance with other existing Federal labeling laws and does not obscure other labeling information required by existing Federal regulations.

(d) A bulk container (e.g., shipper, bin, carton, and barrel), used at the retail level to present product to consumers, may contain a covered commodity from more than one country of origin provided the covered commodity is individually labeled (e.g., PLU sticker).

(e) Abbreviations and variant spellings that unmistakably indicate the country of origin, such as ``U.K.'' for ``The United Kingdom of Great Britain and Northern Ireland'' are acceptable. The adjectival form of the name of a country or region/city within a country may be used as proper notification of the country of origin of imported commodities provided the adjectival form of the name does not appear with other words so as to refer to a kind or species of product. Symbols or flags alone may not be used to denote country of origin.

(f) State or regional label designations are not acceptable in lieu of country of origin labeling.

Recordkeeping

Sec. 60.400 Recordkeeping requirements.

(a) General.

(1) All records must be legible and written in English and may be maintained in either electronic or hard copy formats. Due to the variation in inventory and accounting documentary systems, various forms of documentation and records will be acceptable provided the chain of custody of the covered commodity can be determined and the origin claims, and, if applicable, designations of wild or farm-raised, substantiated.

(2) Upon request by USDA representatives, suppliers and retailers subject to this subpart shall make available to USDA representatives, records and other documentary evidence that will permit substantiation of an origin claim and, if applicable, designation of wild or farm-raised, in a timely manner during normal hours of business and at a location that is reasonable in consideration of the products and firm under review.

(b) Responsibilities of Suppliers.

(1) Any person engaged in the business of supplying a covered commodity to a retailer, whether directly or indirectly, must make available information to the buyer about the country of origin and, if applicable, designation of wild or farm-raised, of the covered commodity. In addition, the supplier of a covered commodity that is responsible for initiating a country of origin declaration, which in the case of beef, lamb, and pork is the meat packing facility, and, if applicable, designation of wild or farm-raised, must possess or have legal access to records that substantiate that claim.

(2) Any intermediary supplier (i.e., not the supplier responsible for initiating a country of origin declaration, and if applicable, designation of wild or farm-raised) handling a covered commodity that is found to be mislabeled for country of origin shall not be held liable for a violation of the Act by reason of the conduct of another if the intermediary supplier could not have been reasonably expected to have had knowledge of the violation from the information provided by the previous supplier.

(3) Any person engaged in the business of supplying a covered commodity to a retailer, whether directly or indirectly (i.e., including but not limited to growers, distributors, handlers, packers, and processors), must maintain records to establish and identify the immediate previous source and immediate subsequent recipient of a covered commodity, in such a way that identifies the product unique to that transaction, for a period of 2 years from the date of the transaction.

(4) For an imported covered commodity, the importer of record as determined by CBP, must ensure that records: provide clear product tracking from the port of entry into the United States to the immediate subsequent recipient; and substantiate country of origin claims and, if applicable, designations of wild or farm-raised and must maintain such records for a period of 2 years from the date of the transaction.

(5) Each supplier that handles similar covered commodities from more than one country must be able to document that the origin of a product was separately tracked, while in their control, during any production and packaging processes to demonstrate that the identity of a product was maintained.

(c) Responsibilities of Retailers.

(1) Records and other documentary evidence (e.g., shipping receipt from central warehouse) relied upon at the point of sale to establish a product's country of origin and, if applicable, designation of wild or farm-raised, must be maintained at the point of sale or otherwise be reasonably available to any duly authorized representative of USDA at the facility for at least 7 days following the retail sale of the product.

(2) Records that identify the retail supplier, the product unique to that transaction, and the country of origin information and, if applicable, designation of wild or farm-raised, must be maintained for a period of 2 years from the date the origin declaration is made at retail. Such records may be located at the retailer's point of distribution, warehouse, central offices or other off-site location.

(3) Any retailer handling a covered commodity that is found to be mislabeled for country of origin shall

[[Page 61985]]

not be held liable for a violation of the Act by reason of the conduct of another if the retailer could not have been reasonably expected to have had knowledge of the violation from the information provided by the supplier.

(4) In construing and enforcing the provisions of the Act and the regulations contained in this part, the act, omission, or failure of any agent, officer, or other person acting for or employed by a person subject to the provisions of the Act within the scope of his/her employment or office, shall in every case be deemed the act, omission, or failure of the person subject to these provisions.

Subpart B--[Reserved]

Dated: October 24, 2003.

A.J. Yates,
Administrator, Agricultural Marketing Service.
[FR Doc. 03-27249 Filed 10-27-03; 12:00 pm]

BILLING CODE 3410-02-P

APPENDIX B
QUESTIONNAIRE SURVEY FOR RETAIL CHAIN STORES AND
DISTRIBUTORS

Questionnaire For Survey With *Retailers* in the United States pertaining to the Estimated Costs of Implementing and Complying with the Mandatory Country-of-Origin Labeling Requirements

* By definition, ***beef products*** in this document include boxed beef and case-ready products.

Please provide the name of your company or corporation and the total annual pounds of beef sold.

Name of Company: _____

Question (1). As retailers, are you going to handle Country-of-Origin beef products other than products born, raised and slaughtered in the United States?

- Yes
- No

- if the answer is no, proceed to question three.
- if the answer is yes, please list the conditions in which you would handle foreign beef products in your retail stores.

Question (3a). Listed below are possible additional *incremental* and *capital costs* that could occur from Country-of-Origin regulations. Please provide your best estimate of the costs to your company.

Incremental Costs	Total Fiscal Year Amounts (dollars and cents)	Additional Estimates, Information and Comments
Labor Costs		
Wrapping and Processing Costs		
Purchasing Costs		
Labeling Costs		
Management Costs		
Additional Store Space Costs		
Additional Refrigeration Costs due to double Stock Keeping Units		
Audit and Verification Costs		
Other Costs (please define specific area of costs with corresponding values)		

Question (3b). (continued). Additional costs that could occur from COOL Regulations.
Please provide your best estimate of the costs to your company.

Capital Costs	Total Fiscal Year Amounts (dollars and cents)	Additional Estimates, Information and Comments
Additional Warehousing Costs		
Additional Cooler Space Costs		
Additional Store Facilities Costs		
Additional Equipment Costs		
Other Costs (please define specific area of costs with corresponding values)		

Question (4). What form of documentation (identification), verification and auditing are you going to require from packers, processors, etc.?

Documentation (identification) Record Keeping
Packers:
Processors:

Verification Record Keeping
Packers:
Processors:

Audit Record Keeping
Packers:
Processors:

Question (5a). What percent of your current total line of beef products handled are case-ready products?

_____ % are case-ready products

Question (5b). Do you expect this percent to change when Country-of-Origin Labeling regulations are implemented?

- Yes
- No

- if the answer is no, proceed to question six
- if the answer is yes, do you expect the rate to increase or decrease.

- Increase
- Decrease

- if the answer is decrease, proceed to question six
- if the answer is increase, what rate do you expect the changes to occur within your company and what percentage of case-ready products will be Country-of-Origin other than the United States.

_____ % of case-ready products will be labeled other than USA

Question (6). Will your operational plan include labeling the beef products yourself or will you have the processors or suppliers label the products for you?
(Please place a check next to the appropriate answer)

_____, labeling the beef products yourself.

_____, processors or suppliers labeling the products for you.

APPENDIX C

QUESTIONNAIRE SURVEY FOR MEAT PACKERS AND PROCESSORS

Questionnaire For Survey With *Packers* in the United States
pertaining to the Estimated Costs of Implementing and Complying
with the Mandatory Country-Of-Origin Labeling Requirements

- * By definition, ***beef products*** in this document include cattle, carcasses, boxed beef and case ready products.

Please provide the name of your company or corporation.

Question (1). As Packers, are you going to handle Country-of-Origin beef products other than products born, raised and slaughtered in the United States?

- Yes
- No

- if the answer is no, proceed to question three.
- if the answer is yes, please list the conditions in which you would handle foreign beef products in your packing or processing plant.

Question (2). What are the added costs per plant on a tonnage or per head basis of separating foreign and domestic beef products. Please provide an annual total estimate on a per head basis.

Incremental Costs	Total Fiscal Year Amounts (dollars and cents)	Additional Estimates, Information and Comments
Labor Costs		
Wrapping and Processing Costs		
Labeling Costs		
Management Costs		
Procurement Costs		
Audit and Verification Costs		
Other Costs (Please define specific area of costs with corresponding values)		

Question (2). (continued). What is the added costs per plant on a tonnage or per head basis of separating foreign and domestic beef products.
Please provide an annual total estimate on a per head basis.

Capital Costs	Total Fiscal Year Amount (dollars and cents)	Additional Estimates, Information and Comments
Additional Warehousing Costs		
Additional Cooler Space Costs		
Additional Equipment Costs		
Other Additional Costs (Please define specific area of costs with corresponding values)		

Question (4a). What category(ies) of cattle does your packing plant(s) process (i.e. fed cattle, cull/cutter/canner cows, and/or dairy cattle)?

Question (4b). If you operate more than one plant, which plants will process what category of cattle?

Question (4c). What percentage of the plant's yearly total processed is fed cattle, cull/cutter/canner cows, and dairy cattle?

Plant(s) Name with Corresponding Region	Cattle Category(ies)	% of Yearly Total Processed
	Fed Cattle: Cull/Cutter/Canner Cattle: Dairy Cattle:	
	Fed Cattle: Cull/Cutter/Canner Cattle: Dairy Cattle:	
	Fed Cattle: Cull/Cutter/Canner Cattle: Dairy Cattle:	
	Fed Cattle: Cull/Cutter/Canner Cattle: Dairy Cattle	
	Fed Cattle: Cull/Cutter/Canner Cattle: Dairy Cattle:	

Question (5). What form of documentation (identification), verification and auditing are you going to require from cattlemen (producers), feedlot operators or stockers?

Documentation (identification) Record Keeping
Cattlemen (producers):
Feedlot Operators:
Stockers/Backgrounders:

Verification Record Keeping
Cattlemen (producers):
Feedlot Operators:
Stockers/Backgrounders:

Audit Record Keeping
Cattlemen (producers):
Feedlot Operators:
Stockers/Backgrounders:

Question (6). What percent of your record keeping time do you estimate will be spent on Country-of-Origin records and what is the total annual cost added to the record keeping function for your operation?

Record Keeping time: _____%

Total Annual Cost: \$_____

Question (7). What percent of total annual production goes to Hotel Restaurant Institutes (HRI), Retail Grocery Outlets and other markets.

Hotel Restaurant Institutes: _____%

Retail Grocery Outlets: _____%

Other Markets: _____%

Question (8). When handling foreign beef, will your company designate specific plants, production runs, or production lines to process or handle Hotel Restaurant Institutes (HRI), Retail Grocery Outlets or other markets?

Yes

No

- if the answer is no, proceed to question nine

- if the answer is yes, what additional costs are associated with this operational procedure (please list specific costs & values)

Hotel Restaurant Institutes (HRI) Costs
Plant Costs:
Production Run Costs:
Production Line Costs:

Retail Grocery Outlets Costs
Plant Costs:
Production Run Costs:
Production Line Costs:

Other (Specify Market) Costs
Plant Costs:
Production Run Costs:
Production Line Costs:

Question (9a). What percent of your current total line of beef products processed and/or handled are case ready products?

_____ % are Case-Ready Products

Question (9b). Do you expect this percent to change when Country-of-Origin Labeling regulations are implemented.

- Yes
- No

- if the answer is no, conclude answering the questionnaire
- if the answer is yes, at what rate do you expect the changes to occur within your company.

APPENDIX D
QUESTIONNAIRE SURVEY FOR CATTLE FEEDLOTS

Questionnaire For Survey With *Cattle Feedlots* in the United States Pertaining to the Estimated Costs of Implementing and Complying with the Mandatory Country-of-Origin Labeling Requirements.

- * By definition, *cattle products* in the document include fed cattle, dairy cattle, cull cows and bulls.

Please provide the name of your company or corporation and the number of head of cattle fed annually.

Name of Company or Corporation: _____

Number of Head of Cattle Fed Annually: _____

Question (1). As cattle feeders, are you going to handle Country-of-Origin cattle products other than products born and raised in the United States.

- Yes
- No

- if the answer is no, proceed to question three
- if the answer is yes, please list the conditions in which you would handle foreign cattle products in your cattle feedlots.

Question (2). Will all of your cattle feedlots carry foreign cattle products.

- Yes
- No

- if the answer is yes, proceed to question four.
- if the answer is no, please list the feedlots handling foreign cattle products.

Cattle Feedlots	Foreign Cattle Products

Question (3). Listed below are possible additional *incremental* and *capital costs* that could occur from Country-of-Origin labeling regulations. Please provide your best estimate of the costs to your company.

Incremental Costs	Total Fiscal Year Amounts (Dollars per Head)	Additional Estimates, Information and Comments
Labor Costs		
Purchasing/Procurement Costs		
Animal Identification Costs		
Management Costs		
Audit and Verification Costs		
Software/Hardware Costs		
Other Costs (please define specific area of costs with corresponding values)		

Question (3). (continued). Additional costs that could occur from Country-of-Origin Labeling Regulations. Please provide your best estimate of the costs to your company.

Capital Costs	Total Fiscal Year Amounts (dollars per head)	Additional Estimates, Information and Comments
Additional Pen Space Costs		
Additional Equipment Costs		
Other costs (please define specific area of costs with corresponding values)		

APPENDIX E
QUESTIONNAIRE SURVEY FOR CATTLE BACKGROUNDERS AND
STOCKERS

Questionnaire For Survey With *Cattle Backgrounders/Stockers* in the United States Pertaining to the Estimated Costs of Implementing and Complying with the Mandatory Country-of-Origin Labeling Requirements.

* By definition, *cattle products* in the document include steers, heifers, cows, bulls or others.

Please provide the name of your company or corporation and the number of head of cattle grass fed annually.

Name of Company or Corporation: _____

Number of Head of Cattle Grass Fed Annually: _____

Question (1). As cattle back grounders, are you going to handle Country-of-Origin cattle products other than products born and raised in the United States.

- Yes
- No

- if the answer is no, proceed to question three
- if the answer is yes, please list the conditions in which you would handle foreign cattle products in your cattle back grounding yards/stocker operations.

Question (3). Listed below are possible additional *incremental* and *capital costs* that could occur from Country-of-Origin labeling regulations. Please provide your best estimate of the costs to your company.

Incremental Costs	Total Fiscal Year Amounts (Dollars per Head)	Additional Estimates, Information and Comments
Labor Costs		
Purchasing/Procurement Costs		
Animal Identification Costs		
Management Costs		
Audit and Verification Costs		
Software/Hardware Costs		
Other Costs (please define specific area of costs with corresponding values)		

Question (3). (continued). Additional costs that could occur from Country-of-Origin Labeling Regulations. Please provide your best estimate of the costs to your company.

Capital Costs	Total Fiscal Year Amounts (dollars per head)	Additional Estimates, Information and Comments
Additional Pasture Segregation Space Costs		
Additional Equipment Costs		
Other costs (please define specific area of costs with corresponding values)		

APPENDIX F

INTRODUCTION LETTER FOR MAIL-OUT QUESTIONNAIRE SURVEYS

Department of Agricultural Economics
Texas A&M University
2124 Tamu
979/845-4351

Date

Company Name

Personnel

Position with Company

Address

Salutation:

In March 2003 members of the Department of Agricultural Economics were asked to make some preliminary estimates on the costs to implement Country-of-Origin Labeling (COOL) regulations for each sector of the Beef Industry. The estimates were made from a very small sampling of the packer and retail sectors. The Livestock Marketing Information Center in Denver, Colorado has provided the Department of Agricultural Economics at Texas A&M University grant monies to expand the sample of packers and retailers to fine-tune the estimated costs of implementing COOL.

Attached is a questionnaire we have prepared containing costs estimates and verification questions pertaining to how your company will respond to mandatory COOL regulations. We would appreciate it if you would fill out the survey and answer the questions with your *best estimates*. We want to use weighted averages for the estimates, so please provide us costs with volumes either on number of head basis or tonnage.

Please return the completed questionnaire and any additional information, by March 10, 2004, in the addressed envelope provided in this packet. If for some reason, the March 10 date has expired and we have not received a response, we will telephone you to inquire about the status of the questionnaire and, if convenient, conduct the questionnaire survey at that particular time. If you have any questions regarding the questionnaire or the study or need any additional information, please feel free to contact us at anytime. The office phone number is (979) 845-5010 and you can e-mail us at danhanselka@tamu.edu or eed@tamu.edu.

Let us assure you your data and information will be kept confidential. In fact as we receive the questionnaire responses, the data will be entered into a spreadsheet with no identification to you and the questionnaire will be destroyed. All of the reported information of the study will be weighted estimates for each sector of the industry, making it impossible to identify any single packer or retailer. We appreciate your cooperation with this study. It cannot be completed without your input. Thank you for your time and cooperation.

Sincerely,

Ernest E. Davis
Regents Fellow, and Professor
Extension Economist-Livestock Marketing

Dan Hanselka
Research Associate

APPENDIX G
FOLLOW-UP COVER LETTER

Department of Agricultural Economics
Texas A&M University
2124 TAMU
979/845-4351

Date

Name of Company

Personnel

Position with Company

Address

Address

Salutation:

It has come to our attention that some of you thought our study on packer and retailer costs associated with COOL had been canceled. Let us assure you that the study is ongoing and your participation is vital in providing the USDA with an accurate estimate of the costs that Country-of-Origin Labeling will impose on the packer and retailer sectors of the industry. We are currently running behind on the study and would appreciate any help you could provide by returning the completed questionnaire by February 9, 2004. We apologize for any confusion or inconvenience with this study.

Sincerely,

Ernest E. Davis
Regents Fellow, Professor and
Extension Economist-Livestock Marketing

Dan Hanselka
Research Associate

VITA

Daniel David Hanselka

- Address: 407 Conti Lane
Victoria, Texas 77904
- Degree: Master of Science
- Major Subject: Agricultural Economics
- Biographical: Born October 10, 1969, Victoria, Texas to David and Gail Hanselka
- Education: St. Joseph High School, Victoria, Texas 1988
- B.S., Animal Science
Texas A&M University, 1992
- B.S., Agricultural Economics
Texas A&M University, 1995
- Professional: Student Technician, Texas A&M Experiment Station, College Station, Texas, June 2004-October 2004
- Research Associate Intern, Livestock Marketing Information Center, Lakewood, Colorado, June 2003-September 2004.
- Intermittent Food Inspector, Food Safety and Inspection Service-United States Department of Agriculture, Bryan, Texas
January 2004-October 2004.
- Owner, Artistic Creations, College Station, Texas
May 1993-October 2004.
- Manager, DVD Ranch, Victoria, Texas
May 1984-October 2004